

Links

386^{CD}

Players Manual



CREDITS

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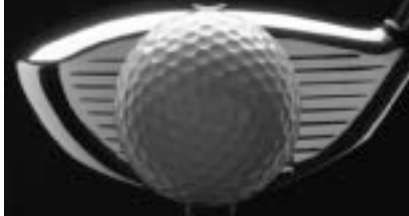


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Introduction to LINKS 386 CD

Welcome to LINKS 386 CD! This program is based on the extremely popular and award-winning program, LINKS 386 PRO. In fact, LINKS 386 CD is essentially a CD-ROM version of LINKS 386 PRO with four added features.

Feature 1: CD Play

Courses can be played from CD to reduce hard disk space requirements. In the future, all new courses will be available on CD-ROM and existing courses will be updated to CD-ROM format.

Feature 2: Catalog of Courses

Courses can exist anywhere on your system, not just in the LINKS386 directory as required by LINKS 386 PRO. Once courses have been entered into the Catalog, they are immediately accessible. There is no need to remember exactly where they are.

Feature 3: Aerial Flybys of Each Hole

Courses on CD-ROM have simulated aerial flybys of each hole with music and commentary giving you a bird's eye view of what's up ahead.

Feature 4: New Sound Drivers and New Game Sound Files

New 16-bit sound drivers support most major sound cards and there are three different game sound files to choose from. Two of the game sound files feature comments from comedian Bobcat Goldthwait.

What courses can be used with LINKS 386 CD?

All courses playable with LINKS 386 PRO can be used with LINKS 386 CD. This includes all the new Super VGA Championship Courses and all the original LINKS courses. (Original LINKS courses must be converted for play using the CONVERT utility. See the paragraph titled "Upgrading from the original LINKS" in the next section). *Courses on CD can be played directly from the CD without using any hard disk space.*

About this Manual

This manual has been organized to help you find the information or instructions you need quickly and easily. *We strongly recommend that you read the entire manual*, which has been written to be easy to understand and completely thorough.

Minimum Hardware Requirements

386/25Mhz CPU - 4 MB RAM - Hard Disk (11 MB free) - Mouse
8-bit Sound Card - CD-ROM Drive (Double Spin - 300 KB/sec - MPC Level 2 compliant)
SVGA Graphics (VESA compliant - 640x400 or 640x480 resolution in 256 colors)

Recommended Hardware (Same as above, except):

486/66 DX2 or faster CPU - 16 MB RAM - 16-bit Sound Card
Local Bus SVGA Graphics (VESA compliant - 640x400 or 640x480, 256 colors)

Upgrading from LINKS 386 PRO

If you have a copy of LINKS 386 PRO on your computer, you can install LINKS 386 CD into the same directory (i.e. LINKS386) without disabling LINKS 386 PRO. You can then play either version of LINKS 386 (PRO or CD) and the two programs can share courses which are in the LINKS 386 directory. Please note that LINKS 386 CD can play courses from CD-ROM or from any other device or directory. LINKS 386 PRO however, requires that courses be on the hard drive and in the LINKS 386 directory.

Upgrading from the original LINKS

If you have a copy of LINKS, THE CHALLENGE OF GOLF (the original LINKS) on your computer, you should install LINKS 386 CD into a new directory (i.e. LINKS386). Original LINKS courses are not in high resolution, but can be converted for use with LINKS 386 CD. When converted, they will run with LINKS386 CD and will look better than they did in LINKS, but will be partially low-resolution. For instructions on how to convert original LINKS courses to the LINKS 386 CD format, refer to the next paragraph.

Using original LINKS courses with LINKS386 CD

Courses from LINKS, THE CHALLENGE OF GOLF (the original Links) can be converted to run with LINKS 386 CD. *(Please note that courses from LINKS 386 PRO will work directly and DO NOT need to be converted.)*

1. Make sure the original LINKS courses are in the original LINKS directory. The courses must have the .CRS extension (i.e. TORREY_P.CRS).
2. Make sure you have sufficient disk space for the converted courses. You'll need about 1 MB for each course.

3. Go to the LINKS 386 CD directory by typing: **CDLINKS386**
[Enter]
4. Then type: **CONVERT \LINKS*.CRS** [Enter].
This will convert the old courses to the new format and transfer them to the LINKS 386 CD directory.

Note: The above instructions assume that the original LINKS directory is named LINKS and that the LINKS 386 CD directory is named LINKS386. If your directories have different names, be sure to substitute the correct names in place of LINKS or LINKS386.

Features of LINKS 386 CD

Features retained from LINKS 386 PRO:

- Female and male golfers, with 10 different shirt colors to choose from.
- Seven different viewing windows, which can be arranged in over 300 different combinations.
- Spectacular terrain texturing (for fairways, rough, sand, water, etc.).
- Unique Human Opponent: The “Record Game” feature allows you to record a game and then play against yourself, or send the recorded game to a friend. Several pre-recorded games are included with LINKS 386 CD, giving you the opportunity to play against members of the LINKS design team.
- Statistics are recorded for each player and game, and can be printed out.
- Statistics are recorded for each Championship Course, to help you understand and play the courses more effectively.
- A “Saved Shot” feature, which allows you to save and replay your best shots.
- Reverse view of the green, which can remain on the screen at all times, allowing you to watch your approach shot from the front and the back while it happens.
- A “Profile” view, which shows all the changes in elevation between the ball and the pin.
- Top View can be viewed in different sizes.
- A Club Selection Chart, which shows all the average club distances.
- A “Custom Shot Setup” viewing window, which allows you to set up customized shots.
- Information on how to participate in matches and tournaments with other LINKS 386 users through the Computer Sports Network.
- Includes the Harbour Town Golf Links

New Features

- Includes the Banff Springs Golf Club (U.S. version) or The Belfry (European version.)
- Courses can be PLAYED FROM CD to reduce hard disk space requirements. New and existing courses will be available on CD-ROM format.

- New CATALOG feature allows courses to exist anywhere on your system. Once courses have been entered into the Catalog, they are immediately accessible. There is no need to remember exactly where they are.
- Courses on CD have simulated AERIAL FLYBY'S of each hole with music and commentary giving you a bird's eye view of what's up ahead.
- ALL MAJOR SOUND CARDS are supported in 16 bit format.
- Three NEW GAME SOUND FILES are included. Two of the sound files feature comments from comedian Bobcat Goldthwait.

Getting Started

Installing the Program

The LINKS 386 CD program must be installed on your hard disk to operate properly, and you must have at least 11 MB of disk space for the installation. Depending on your available RAM, you may need up to 8 MB free during run-time for swap files.

To Install:

1. Insert the CD into the CD-ROM drive.
2. Type: **D:INSTALL** [Enter] where D: is the drive letter of your CD-ROM drive.
3. Follow the instructions on screen.

If the installation fails, try to determine which of the following reasons apply.

1. INSTALL program aborts with the message:

“This installation program requires a VESA driver...”

Both the INSTALL program and LINKS 386 CD require a VESA compatible video card and driver. If the INSTALL program aborts with this message, refer to the section titled *“Installing and Testing Your VESA Driver”* on page xx. Once you get your VESA driver working, try installing LINKS 386 CD again.

2. INSTALL program aborts with the message:

“VESA Incompatibility

“The program was unable to set VESA graphics mode 101h (640x480x256)”

The INSTALL program requires VESA mode 101h. If the INSTALL program aborts with this message, use the *Alternate Installation Method* described on the next page.

3. INSTALL program aborts with the message:

“Error reading drive D:”

“Abort, Retry, Fail...” where D: is the drive letter of your CD-ROM drive.

This may indicate a defective CD or malfunctioning CD-ROM drive.

Turn your computer off, wait about 20 seconds, turn it on and try again. Also check the CD for dust or fingerprints. If you get the same error, call our technical support department. See the Technical Support section at the end of this manual.

4. INSTALL program hangs or aborts other than described above:
Use the *Alternate Installation Method* described below.

Alternate Installation Method

1. Insert the CD into the CD-ROM drive.
2. Type: **D:INSTALL2** [Enter] where D: is the drive letter of your CD-ROM drive.
3. Follow the instructions on screen.

Un-installing LINKS 386 PRO or LINKS 386 CD

To remove LINKS 386 PRO or LINKS 386 CD, do the following:

1. Insert the LINKS 386 CD into the CD-ROM drive.
2. Go to the directory that contains the program you want to erase.
3. To remove LINKS 386 PRO, type: **D:ERASEPRO**

To remove LINKS 386 CD, type: **D:ERASECD**
(**D:** represents the drive letter of your CD-ROM drive.)

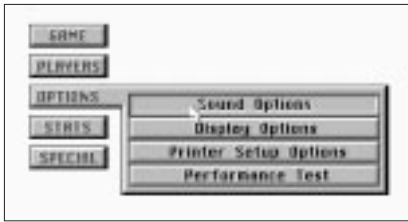
Note: These “uninstall programs” will remove ONLY the version specified, even if both are in the same directory (i.e. LINKS386).

Using Your Old Courses

If you're already an owner of the original LINKS or LINKS 386 PRO, you can use your old courses with LINKS 386 CD. Original LINKS courses must be converted to the LINKS 386 CD format. Refer to page xx for instructions on how to make the conversion. LINKS 386 PRO courses can be used “as is”, with no modifications. If you have LINKS 386 PRO and you installed LINKS 386 CD in the same directory, then your courses have been automatically cataloged for play. If you installed LINKS 386 CD in a different directory than LINKS 386 PRO, you will have to manually catalog the courses before you can play them. See page xx for instructions on cataloging courses.

Running the Program

1. Make sure you're in the LINKS386 directory on the hard drive.
Type: **CDLINKS386** [Enter]
2. Run the program.
Type: **GOLFCD** [Enter]



Configuring The Sound

The first time you start the game you will be taken to the Set Sound Device screen automatically to configure your sound device. After the first time, you can get to the Set Sound Device screen through the Sound Options as follows:

To bring up the Sound Options screen:

1. Click the OPTIONS button on the main MENU.
2. Click the SOUND OPTIONS button.

Setting The Sound Device

From the Sound Options screen, click on the Set Sound Device button at the bottom of the panel. This will bring up the Sound Device screen. Highlight your device (card) in the DEVICE LIST by clicking on it. If you do not know which device or which settings to use, click the AUTO DETECT button. (See below) Use the UP or DOWN arrows to change the I/O Port, Interrupt and DMA channel settings.



Setting the Sound Device.

TEST THE DEVICE by clicking the SOUND TEST button. If you hear digitized speech, then the test was successful and you should click OK to continue. If you do not hear any speech, the test was not successful. You may want to try other I/O, Interrupt and DMA settings, or you may want to try AUTO DETECT again.

Using the AUTO DETECT Feature

If you do not remember which sound card you have (a common problem) or which settings to use (a very common problem), you can ask the Sound Module to find out for you. This feature is called AUTO DETECT and works as follows: The program has a list of sound cards and it knows how each card is supposed to respond when interrogated. Starting with a common card, the program checks to see if it is “OUT THERE.” If there is NO RESPONSE, then the next card is checked and so on. If the card DOES RESPOND, then the appropriate settings are retrieved and the program pauses and displays the name of the card and the settings. At this point you can click the ACCEPT button to stop the AUTO DETECT process or click the CONTINUE button to keep trying.



Using Auto Detect.

Lockups during Auto Detect

Some sound cards do not react well to the interrogation process and may LOCK UP the computer. If this happens, reboot and try AUTO DETECT again. The program keeps track of combinations which cause a lock up and will not try that combination again. If you install a new sound card, be sure to click the CLEAR LOG button before using AUTO DETECT.



Auto Detect results.

Phantom Detections

Some sound cards can be mistaken for other cards. This produces what is called Phantom Detections. The Auto Detect process appears to find a card

that really isn't there and the Sound Test doesn't work. In this case you should try AUTO DETECT again and select CONTINUE rather than ACCEPT when the program pauses on the phantom card.



Sound Options.

Selecting the Sound Library

Links 386 CD has three Sound Libraries to choose from. SOUND386.WVL is the standard library with common golf comments and sound effects. There are two libraries (BOBCAT1.WVL and BOBCAT2.WVL) which feature the nationally known comedian Bobcat Goldthwait as your Comic Caddie. Select the Sound Library by clicking on the name in the Library List.

Setting the Sound Volume

Set the sound volume by clicking the left or right arrow buttons on the volume bar. Test the volume by clicking on the Test button.

Selectively Turning Sounds On or Off

You can turn all sounds on or off by clicking the ON or OFF check boxes. You can selectively turn the In-Flight Comments, Post Shot Comments, Flyby Sound, Sound Effects, or Background Sounds on or off by clicking the corresponding check box.

Saving the Sound Settings

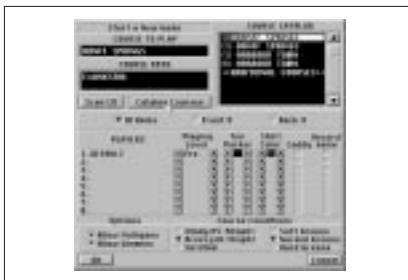
To save the settings, click the OK button, otherwise click the Cancel button.

Cataloging Courses

Because LINKS 386 CD can now play courses from CD as well as hard disk and other types of media, a catalog system was developed to keep track of your courses.

Automatic Cataloging

Courses in the LINKS386 directory, (or wherever you install LINKS 386 CD) and courses on CD, are automatically cataloged whenever the game is started. If you change CD's after starting the game, you can catalog the CD (without going to the Catalog System) by clicking on the SCAN CD button.



Click on the "Catalog Course" button to get to the Course Catalog System.

Getting to the Course Catalog System

1. Either select **Start a New Game** or **Practice**.
2. Select a Player.
3. At the Course Selection Screen, click on the **Catalog Courses** button.

Now you are in the *Course Cataloging System*. From here you can search all available drives as well as insert and search CD-ROM's and removable disk drives for courses. This screen also displays all courses that have been cataloged and will show you where they are located.

How the Catalog System Works

When you catalog a course, the name and location (drive letter and path) are stored in the catalog system. When a course is selected for play, the system

retrieves the location information from the catalog and goes to the drive and path to access the data. If the course is not found at that location, you are prompted to insert the media (i.e. CD-ROM) which has the course you have selected. This catalog system will also work with multiple hard drives, network drives, and removable media drives.

Please note that a course may appear multiple times in the Catalog System. This will occur if the same course exists in more than one location. For example, when you installed LINKS 386 CD, Harbour Town and Banff Springs were automatically cataloged for play from CD and you were given the option of copying these courses to your hard drive. If you did copy the courses to the hard drive, the copies are also cataloged for play. Two references will now appear in the catalog system for each course as follows:



The Catalog screen.

CD-BANFF SPRINGS
 HD-BANFF SPRINGS
 CD-HARBOUR TOWN
 HD-HARBOUR TOWN

The code letters to the left of the course name indicate the type of media. The following are valid codes:

Code	Media Type
CD	CD-ROM
HD	Hard Disk (Local fixed disk)
LR	Local Removable (Bernoulli, SyQuest, etc)
RF	Remote Fixed (Network)
RR	Remote Removable
??	Drive is currently not available

All other courses you have on your hard drive(s), removable drive(s) or CD-ROM's need to be cataloged so they are available for play. After cataloging all courses, you will be able to determine if there are duplicates which can be deleted to save space.

REMEMBER: Courses must be cataloged before you can play them, and courses in the LINKS386 directory (or wherever you install LINKS 386 CD) and courses on CD, are automatically cataloged whenever the game is started.

Finding Your Courses

The top three buttons will help you locate your course files.

Selecting a Drive

In the top portion of the screen is a row of boxes representing all accessible drives with their corresponding drive letters. **Click on the button of the drive you want to search.** The button will depress and a red border will appear around the selected drive letter.

Find First ...

Clicking this button will search the **currently selected drive** for courses. The search will stop when a directory is found with courses in it. The *Courses/Directories* box displays the found courses and the *Current Path* shows the directory.

Clicking on one of the courses will display the *Course* and *Course Path*. If you want to add this course to the Course Catalog then click on the *Add Course to Catalog* button. If you want all found courses added to the *Course Catalog*, then click on the *Add All Courses to Catalog* button.

Find Next ...

If you want to continue the search on the **currently selected drive**, click this button. The *Courses/Directories* box will clear and the search of the selected drive will continue. If more courses are found, you can add them one at a time using the *Add Course to Catalog* button, or you can add them all at once using the *Add All Courses to Catalog* button.

Find All Courses ...

The system will search through the **entire selected drive**, find all the courses and then display the results of the search in the *Courses/Directories* box. This usually takes only a few seconds unless you have a large hard drive with a large number of files. **If the same course is found in different directories, both will be displayed and both can be added to the Course Catalog.**

Locating your courses manually

If you know where the courses are on your hard disk and are familiar with using the [N] and [..] features, you can get to the directory that has your courses without using the Find buttons.

Editing the Course Catalog

Removing a Course from the Catalog

You can delete entries from your *Course Catalog*. (This does not physically delete the actual course file.)

Click on the course to be removed. The *Catalog Course* and *Catalog Course Path* will display the location of the course file. If this is the course you want to remove then click on the *Remove Course From Catalog* button.

Clear Catalog

There may be a time you need to “start over” with your course catalog. Clicking on this button will clear the entire *Course Catalog*.

Note: No course files are deleted from your hard drive, only the catalog entries are removed.



The Catalog screen.

Copying Courses From the CD to the Hard Drive

Courses can be copied from the CD (or any other device or directory) to the directory where LINKS 386 CD resides (i.e. LINKS386) by doing the following:

- Step 1. Go to the Catalog system.
- Step 2. Insert the CD that contains the course you want to copy.
- Step 3. Click on the drive letter of the device (i.e. D:).
- Step 4. Click on the *Find All* button.
- Step 5. Click on the course name in the *Courses/Directories List*
- Step 6. Click on the *Copy Course to Game Directory* button.

Deleting Courses From the Hard Drive

Courses can be deleted from the directory where LINKS 386 CD resides (i.e. LINKS386) but not from other directories. See “Deleting...” on page xx.

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LINKS 386 CD Players Manual

Chapter

3

Getting to the Tee

The following section explains the steps that must be taken before you are ready to start a round of golf. As in the actual game, you must decide which course you want to play, whether you want to play a full 18 holes or just the front or back nine, which players will participate, which clubs they will use, which tees they will hit from, and the options and rules which will be followed during the round.

Starting a New Game

When you start up LINKS 386 CD, a menu is displayed with five buttons: Game, Players, Options, Stats, and Special. Click any of these buttons to display a sub-menu, from which you can make selections. To start a new game, click the Game button, and then click START NEW GAME from the Game menu. A “Start a New Game” screen is displayed, where you choose the players for the upcoming round, and can create a new golfer, or use a recorded player. For information on using a recorded player, see page xx.

Creating New Players

In the “Start a New Game” screen there is a “Player List” box and a “Golfer List” box. When you start a new game for the first time in LINKS 386 CD, the Player List box is empty and the only name in the Golfer List box is “Default.” This is a generic player file which uses the default settings. If you want to create a player for yourself, follow the steps below.

To create a new player:

1. In the “Start a New Game” screen, click the “Create New Golfer” button.
2. The “Create, Edit or Delete a Golfer” screen is displayed. Move the pointer into the “Golfer Name” box in the top left corner and click, then type in the name of the new golfer.
3. Choose the gender (“Animation”) of the player, then choose the settings under Preferences. For information on the various settings, see page xx.



Start a New Game.



Create New Players.

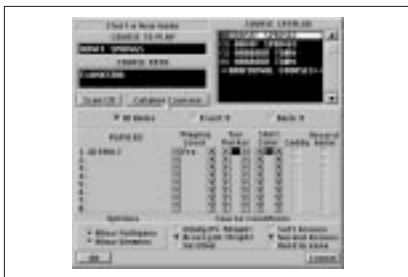
- When you have chosen the player's settings, click the "Save" button, then click the "Leave" button. You will return to the "Start a New Game" screen, where the new golfer's name is now displayed in the Golfer List box.

Choosing the Players for a Round

Every player that is created in LINKS 386 CD is added to the "Golfer List" box in the first "Start New Game" screen. This box can contain as many names as you want. Choose up to eight players (or one player eight times) to participate in a round by transferring the names from the "Golfer List" box to the "Player List" box. **Only the players listed in the Player List box will participate in the upcoming round.**



Choose Players for the Round.



Choose the Course and set the Options and Conditions.

Note: If you allow mulligans, a Mulligan button is displayed in the control panel after every shot. You are never required to take a mulligan if the button appears, but you have the option. If you choose not to allow mulligans, the Mulligan button will not ever appear in the control panel.

For information on how to use Recorded Players, see page 41.

When you have chosen the players you want to participate in the upcoming round, click the OK button. The next screen displayed is the second "Start a New Game" screen. Here you choose the course to play, the holes, the course conditions, and game options. This is also the entry point to the catalog system. *For help on Cataloging Courses, see page xx.*

Choosing a Course and the Holes You Want to Play

- Find the course you want to play in the "Course Catalog" box. If the same course appears multiple times, that is because it exists (and can be played) in multiple locations. If you are playing from CD and the course does not appear in the list, click on the SCAN CD button. If you cannot find the course you want in the Course List, click on the Catalog Course button. *See page xx for more information.*
- When you find the course you want to play, click it. The course name should then be displayed in the "Course to Play" box in the top left corner.
- Directly under the "Catalog Courses" button, choose between 18 holes, Front 9 (holes 1-9), and Back 9 (holes 10-18).

Choosing Game Options and Course Conditions

Click the check box beside "Allow Mulligans" or "Allow Gimmies" to permit these options during the upcoming round.

Mulligans: When you take a shot over and don't count the first shot, it is called "taking a Mulligan." **Mulligans are not sanctioned by the U.S. Golf**

Note: If you allow gimmies, a Gimmie button is displayed in the control panel after a shot that leaves your ball on the green and within two feet of the hole. You are never required to take a gimmie if the button appears, but you have the option. If you choose not to allow gimmies, the Gimmie button will not appear in the control panel after a shot. There is another Gimmie button which always appears in the control panel before a shot. This button will not work unless gimmies are allowed and you are on the green, within two feet of the hole.

Note: When a “recorded player” is participating in a round, the Course Conditions will be locked at “No Wind” and “Normal Greens.” This is to avoid any inconsistency with the course conditions that were used in the recorded game. For more information on recorded games, see page xx.

Note: You are free to make changes to any of these settings, but any changes you make on this screen will be temporary and will apply only to the upcoming round. If you would like to permanently change a player’s settings, or want more information about any of these settings, see page xx.

Association, but are commonly allowed in friendly play. LINKS 386 CD does not add mulligans to your score, but the number of mulligans taken during a round are recorded on the score card.

Gimmies: When the ball is on the green and so close to the hole that the putt would certainly be made, the golfer, to save time (or out of frustration) may just add a stroke to his or her score and not actually attempt the putt. Gimmies are commonly allowed in friendly play, and are an option in LINKS 386 CD for players who are on the green, within two feet of the hole, and want to avoid having to wait to make an easy putt.

Course Conditions

Wind: Choose between No Wind, Breezy, and Windy conditions.

Greens: Choose between Soft, Normal, and Hard green conditions. Greens are usually softer due to dampness or humidity, and are typically harder when dry. The difference in green conditions is reflected in the way the ball bounces and rolls when it lands on the green. The impact of the ball will be dampened on a soft green, whereas a harder green may heighten the impact. Roll will be slower on soft greens and faster on hard greens.

Checking Players and Settings before Starting a Round

In the second “Start a New Game” screen, the players that you chose for the upcoming round are listed, along with their Playing Levels, Tee Markers, and Shirt Colors. If a player is using the “Caddy” to recommend clubs, the Caddy box is checked.

If you would like to record one or more of the players’ games, click the box under “Record Game”. For more information on recording a game, see page xx.

When the settings are where you want them, click the OK button to start the round. Click the Cancel button to return to the first “Start a New Game” screen.

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LINKS 386 CD Players Manual

Chapter

4

On the Tee

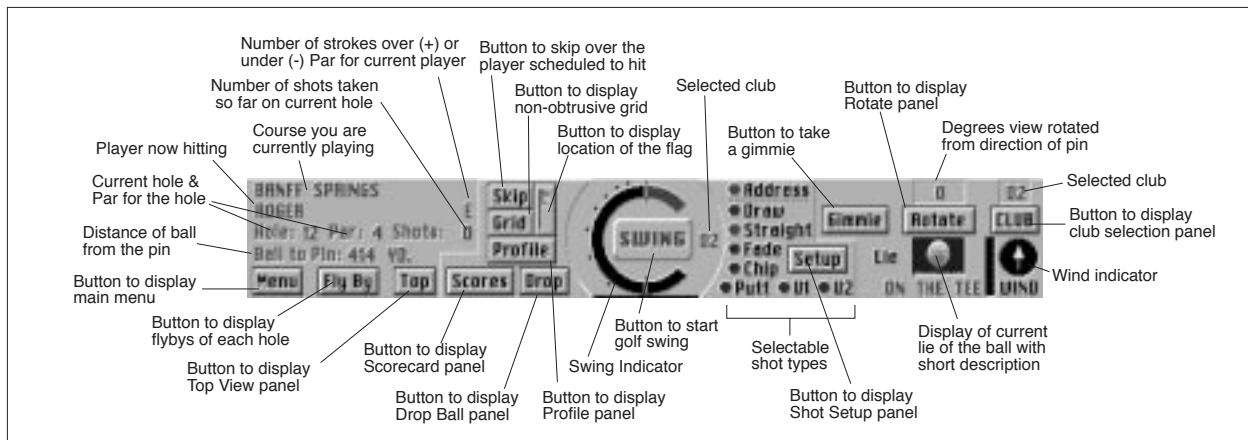


Note: Drawing time may be slow on the first screen draw. This is because initial data is being preloaded. If you have adequate memory available, subsequent redraws should be significantly faster.

After you have chosen the players you want to participate in the round, the course and holes you want to play, and the game options and course conditions, you are ready to start play. When you arrive at the tee in LINKS 386 CD for the first time, you will see a viewing window, called the Main View, which shows the view of the fairway from behind the golfer. The Main View is one of seven different viewing windows available in the program. A description of these viewing windows, with directions on how to select and arrange them on the screen, appears later in this chapter.

Using the Control Panel

Beneath the Main View is the “control panel,” which extends across the bottom of the screen and contains gauges, buttons, symbols, and other information.



Shot Information

The top-left corner of the control panel displays the name of the course which is being played, and other information related to the upcoming shot: The name of the player about to hit; the player's over/under par score; the hole that is

currently being played; the par of the hole; the number of shots the player has taken so far on the current hole; and the distance from the ball's current location to the pin.

Buttons

There are 14 different buttons in the control panel. The following table describes what each button does:

Click	To
Menu	Display the menu.
FlyBy	Display a flyby of the current hole. See page xx for more information.
Top	Display the Top View viewing window.
Scores	Display the Scorecard.
Drop	Prepare to drop the ball. See page xx for directions on "dropping."
Skip	Skip over the player scheduled to hit and let the next player hit.
Grid	Display the Grid. See page xx for instructions on displaying the Grid.
Profile	Display the Profile viewing window.
The "Flag"	Expose the location of the pin, which moves up to the ball, then back to the hole.
Swing	Begin the swing. Also see page xx.
Setup	Display the Shot Setup. See page xx to learn how to set up a custom shot.
Gimmie	Take a gimmie. For information on gimmies, see page xx.
Rotate	Rotate the Main View. See page xx for instructions on rotating the Main View.
Club	Select a Club. See below.

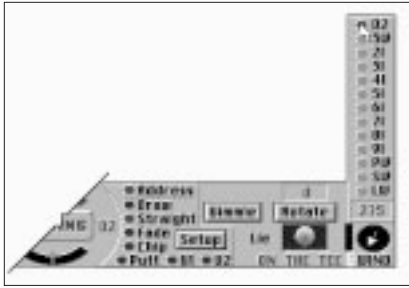
Club (Selection)

The Club button is located in the top-right corner of the control panel. Move the pointer over this button to display the club selection. The clubs listed are those that were chosen for the player when he or she was created. Move the pointer over a club to display the average distance for that club. Click the option button to the left of a club to select it.

The Swing Button and Gauge

The Swing button and gauge are located in the center of the control panel, and are used to execute the swing sequence. See page xx for directions on how to swing.

Note: If you would like to change the club selection that a player has to choose from, see page xx.



Note: The “U1” and U2” shot types apply to whichever is being used. Each club can have two custom shots created for it.

Note: When the wind gauge is full, the wind is blowing about 30 m.p.h.



Shot Types

To the right of the Swing button and gauge are listed the different “shot types”:

Choose	To
Address	Back away from the ball and take a practice swing.
Draw	Hook the ball slightly to the left.
Straight	Take a regular, full swing.
Fade	Slice the ball slightly to the right.
Chip	Take a shorter, more controlled swing. Usually used close to the green.
Putt	Putt. From the fringe of the green, you can click “putt” instead of “chip.”
U1	Use a custom shot that you have created with the Setup (see page xx).
U2	Use a second custom shot that you have created with the Setup.

Lie

The “LIE” graphic is displayed in the lower-right corner of the control panel, and shows the terrain on which the ball is currently sitting. The following terrain types are used in the different courses available to be used in LINKS 386 CD:

Asphalt	Dirt	Lava	Rough
Concrete	Dormant Grass	Mud	Sand
Deep Grass	Fairway	Ocean	Stream
Deep Rough	Green	Pine Needles	Water

The Wind Gauge and Compass

The wind gauge and compass are displayed in the bottom-right corner of the control panel. The wind compass indicates the direction the wind is blowing in relation to the golfer. The wind gauge indicates the velocity of the wind.

Simulated Aerial Flybys

This exciting feature will give you a new perspective of these beautiful championship courses and may assist you in getting up and down in a fewer number of strokes. Flybys are only available on CD-ROM based Links Championship Courses.

Note: The FLAG position on the aerial flyby’s is always the same and may not be the same position in the game you are playing.

Viewing the Aerial Flybys

Once you are on the course, either in game play or practice mode, you can view the aerial flyby for the current hole. Click on the FLYBY button in the lower left area of the control panel to bring up the Flyby Window. The flyby will automatically begin. If the CD that contains the flyby is not in the CD-



ROM drive, then you will be prompted to insert the course CD.

VCR-type controls are available during the flyby: *Rewind to Beginning, Pause, Resume Play, Advance One Frame and Sound Mute*. Just click on the function to toggle it on or off.

There are **two sizes** of flybys; large and small. The large size is for more powerful systems and the small size is for less powerful systems or systems with slow video cards. The default size is set at the time of installation based on the speed of your system, however you can change the default size as described below.

Changing the Default Window Size for Flybys

When the **Flyby** button on the control panel is pressed the default size flyby is played. To change the default size of the flyby, do the following:

1. Click the **MENU** button to bring up the *MAIN MENU*.
2. Click the **GAME** button on the *MAIN MENU*.
3. Click the **CHANGE GAME SETTINGS** button.
4. In the lower right quarter of the screen are the **FLYBY** check boxes. Click the large or small box to set the default size.

HOT KEYS for Aerial Flybys

While playing a hole, you can start the large or small flyby by using the **HOT KEYS**.

1. Make sure the cursor is **NOT** over an auxiliary window (i.e. the Top View).
2. Press the **[L]** key for the large flyby or the **[S]** key for the small flyby.

Note: For directions on how to select the viewing windows, see "Choosing and Arranging the Viewing Windows" later in this chapter.



The Viewing Windows

There are seven different viewing windows available in LINKS 386 CD: Main View, Green View, Top View, Setup, Club Distance Chart, Score Card, and Profile. You can choose to view only the Main View, or you may select up to three other viewing windows to be displayed in addition to the Main View.

Main View

Main View must be displayed at all times, since it is the viewing window in which the golfer appears and the swing action is executed. All other viewing windows are optional. Main View can be viewed in two different modes: Normal, which is the standard scale, or small, which is a "wide-angled" view. When you run Main View (small), the golfer appears at half the size of the golfer in Main View (normal).

Note: The advantage of the "small" mode is that more of the area around the golfer is displayed, making for a more open and panoramic display.



Green View

This unique viewing window displays the view from behind the green, facing back towards the tee, and allows you to see your approach shots more clearly. Like Main View, Green View can be viewed in the “normal” or “small” mode.



Top View

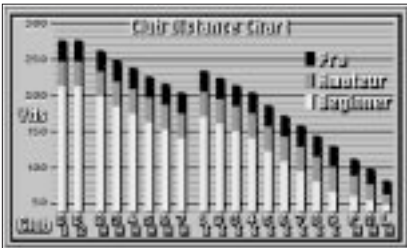
Top View provides a view of the course from above, allowing you to see the position of your ball in relation to the Green, Fairway, etc. By clicking and holding the left mouse button, you can “drag” the Top View around within the window. You may also move the pointer into the Top View viewing window, click the right mouse button, and check the distances from the ball to the cursor and from the cursor to the pin.

There are seven buttons along the left edge of the Top View viewing window. The top two buttons are used to increase or decrease the magnification of the area currently displayed in the Top View. The four buttons beneath the “magnify” buttons allow you to move the view left or right, and up or down, to see other areas which are not currently visible. The “R” button at the bottom will return the Top View to its original position.



Setup

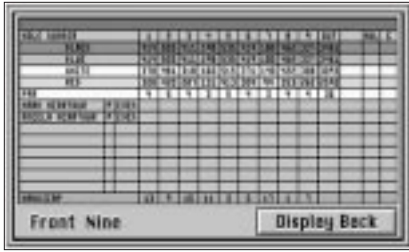
The Setup viewing window allows you to change the swing plane, the golfer’s stance, the position of the ball, and the club face angle. For directions on how to use the Setup to create a custom shot, see page xx.



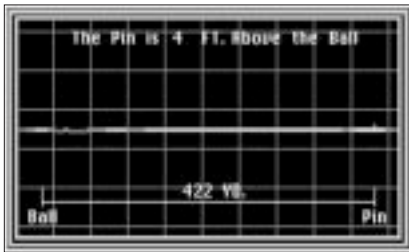
Club Distance Chart

The Club Distance Chart displays the average distance that each club will hit the ball at each of the three play levels: Beginner, Amateur and Professional.

Note: For basic information about clubs, see page xx



Note: The handicaps are provided for informational purposes only and are not used in LINKS 386 CD.



Score Card

The Score Card displays the names of the players, their levels, their over/under par scores, and their scores for each hole, as well as other information typically found on a score card. The “Out” total (the number of shots taken on the front nine) is displayed on the front of the Score Card. The “In” total (the number of shots taken on the back nine), and the “Total” number of shots taken on all 18 holes, are displayed on the back of the Score Card. The number of mulligans and gimmies taken by each player is recorded. The distances from the different tee boxes to the pin on each hole are displayed, as well as the par and handicap for each hole.

Profile

The Profile viewing window shows a graphic of the elevations in the terrain between the ball and the pin.

Note: The flight of the ball is not shown in the Profile, only the ball's position before the shot is taken.

Choosing and Arranging the Viewing Windows

The viewing windows in LINKS 386 CD can be viewed in one, two, three, or four different sizes:

Size	Area on screen
Full size	Entire screen.
Vertical half	One half (Left or right).
Horizontal half	One half (Top or bottom).
Quarter screen	One quarter of the screen.

Main View (normal), can be viewed in “full size,” or “vertical half.”

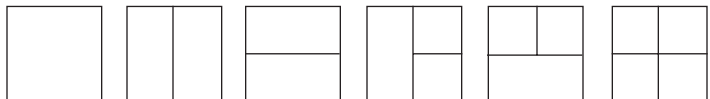
Main View (small) can be viewed in all four sizes.

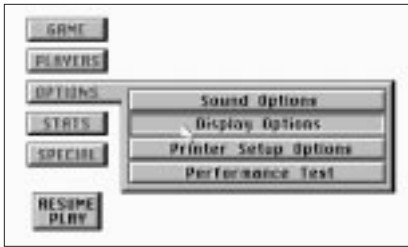
Green View (normal) can be viewed only in “vertical half.”

Green View (small) can be viewed in “vertical half,” “horizontal half,” or “quarter screen.”

Top View, Setup, Club Distance Chart, Score Card and Profile all can be viewed in “vertical half,” “horizontal half,” or “quarter screen.”

From one to four of these viewing windows may be seen at one time, and must be arranged within one of the following six templates:





To change the arrangement of viewing windows:

1. After you start a new game, Click the Menu button in the control panel.
2. In the menu, click the Options button. This will display the Options menu.
3. In the Options menu, click DISPLAY OPTIONS. The available viewing windows and templates are displayed.
4. Click the type of a viewing window that you want to add to the arrangement. Sections within the six templates are highlighted wherever that viewing window can be placed.
5. Click any highlighted section to have the viewing window added there.
6. When you have finished choosing the arrangement, click the OK button to save the arrangement and return to the menu.
7. Click the Resume Play button to return to the game with the new arrangement displayed.

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LINKS 386 CD Players Manual

Chapter

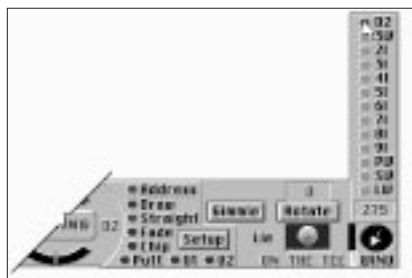
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Playing the Game

When you are familiar with the control panel and the viewing windows, you are ready to play a round. In LINKS 386 CD, as in the actual game, you select the correct club, take a practice swing, aim your shot, and then swing away. This chapter explains how to follow these steps, and also how to use the post-shot control panel, how to go to the practice areas, and how to change the game settings in order to increase the speed, or improve the graphic quality of the program.



Getting to the main menu



Note: The average distance that each club will hit the ball is different for each level of play (beginner, amateur, professional). Regardless of the level at which you're playing, the average club distance for that level is displayed when you move the pointer over any of the clubs listed. This will help you decide which club to choose.

Getting to the Menu During a Round

If you would like to use one of the options available through the menu, click the Menu button in the control panel.

Note: If you have just taken a shot and the post-shot control panel is displayed, you need to click the Continue, Mulligan, Gimmie, Rehit, or Drop button (depending on which are available), and wait until the regular control panel is displayed, and then click the Menu button.

Choosing a Club

When you create a player, you select up to 14 clubs—including the putter—from a list of 20 possible clubs (The United States Golf Association rules state that no more than 14 clubs are allowed to be carried during a round). This club selection is displayed when you move the pointer over the Club button in the control panel.

The Caddy

If you choose the “caddy” option when creating your player, LINKS 386 CD recommends a club for you before each shot. The club which is recommended may not always be the best club for your shot, depending on factors such as the current lie of the ball, wind strength and direction, or the difference in elevation between the ball and the pin. Remember, even if you are using the “caddy,” you are free to change to a different club.

Note: The putter is required to be one of the 14 clubs carried in a round, and it is automatically chosen for you when you are hitting on the green. If you choose to putt from an area other than the green (such as from the fringe of the green), choose the “putt” shot type. This sets you up to putt.

Note: The average club distances are based on certain conditions: Ball hit from tee, landing and rolling on a flat fairway, no wind, normal power and perfect snap (click exactly on the top and bottom green marks during the swing).



Note: The distance from the golfer to the aiming marker (as well as the difference in elevation) is displayed in the lower-left corner of the Main View viewing window. Where you place the aiming marker, however, has no effect on the distance of your shot, only the direction.

The Clubs

The clubs in LINKS 386 CD can be divided into four groups: Drivers (D1, D2); Woods (2W, etc.); Irons (1I, etc.); and Wedges (PW, SW, LW).

Drivers: These clubs are normally used to tee off, since they are capable of hitting the longest drives. They have very low loft, meaning that drivers hit the ball with the lowest trajectory of all the clubs. For that reason, they travel the farthest in the air and roll longer on the ground.

Woods: Like drivers, woods have relatively low loft, causing the ball to travel farther, with lower trajectory, and roll farther on the ground. The 2 wood has the lowest loft (though not as low as the drivers’) and the 7 wood has the most angled club face.

Irons: Irons have more loft, so they will typically hit the ball with a higher trajectory. Some irons, though, will hit the ball approximately the same distance as some woods (for example, the 2 Iron and the 5 Wood will both hit the ball about 220-225 yards at the professional level).

Wedges: The three wedges—pitching, sand, and loft—are actually irons, but they have extremely high loft. Because of this, wedges hit the ball higher in the air, causing the ball to travel a shorter distance in the air and roll less after it lands. Wedges are typically used when a golfer is close to a green and wants the ball to land and stay on the green.

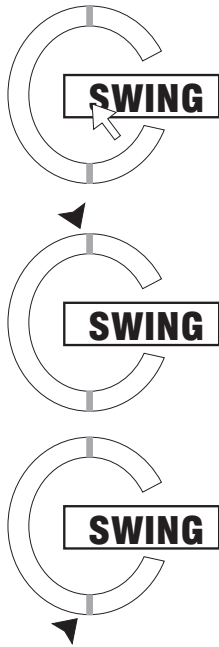
Aiming Your Shot

After you choose a club, you are ready to take your swing. In order to achieve maximum accuracy, you must aim your shot. LINKS 386 CD provides an “aiming marker” to simplify the process.

To aim your shot:

1. Move the pointer into the Main View viewing window.
2. Hold down the **left** mouse button to display the red and white striped aiming **marker**.
3. While holding the mouse button down, move the **marker** in the direction you want to aim.
4. When the aiming **marker** is in position, release the mouse button.

*Note: You can check the position of aiming **marker** by clicking the **right** mouse button in the Main View.*



How to Swing

1. Position the pointer on the Swing button in the control panel. Press and hold down the left mouse button to start the swing.
2. When the yellow indicator within the swing gauge reaches the green line at 12 o'clock, release the left mouse button. A yellow line marks the point where you release, and the yellow indicator continues on, into the red area at the end of the swing gauge.

Note: The point at which you release the mouse button determines the power level of the swing. If you release before or on the 12 o'clock mark, your swing will be softer and more controlled, making the snap (the second part of the swing) more likely to be accurate. If you release in the red area (after the 12 o'clock mark), your swing will be more powerful than normal and your snap will need to be almost perfect to avoid severely hooking or slicing the shot.

3. When the yellow indicator reaches the end of the red area at the top of the swing gauge, it bounces back around. When it reaches the green line at 6 o'clock, click the left mouse button. A second yellow line marks the second release point.

Note: The point at which you click here determines how straight the shot will go. This is called the snap. If you click before the 6 o'clock mark, the shot will hook to the left; After the 6 o'clock mark, the shot will slice to the right. The severity of the hook or slice depends on both how close you get to the 6 o'clock mark, and, how powerfully you swing. The more powerful the swing, the greater the hook or slice.

The swing sequence is PRESS & HOLD, RELEASE, CLICK.

How to Chip

Chipping is similar to taking a full swing except that the length of the swing is limited. Maximum power for the chip is obtained by releasing the left mouse button at the 10 o'clock position.

How to Putt

1. Push the button to start the swing.
2. Release the button to set the power.
3. When the indicator reaches the bottom mark, push the button again to strike the ball squarely.

This stroke is similar to the full swing or the chip in that you must press the button when the indicator reaches the "bottom mark" to strike the ball squarely and thus hit a straight putt. If you press the button before the "bottom mark" you will "pull" the ball to the left. If you press the button after the "bottom mark" you will "push" the ball to the right.



Note: For information on mulligans or gimmies, see page xx. For instructions on “dropping,” see page xx.

Post-Shot Options

After a shot, the control panel displays a different set of buttons and information. In the top-left corner of the control panel is displayed the name of the player who just hit, and the number of shots he or she has taken so far on the current hole.

Shot Information

Under the player’s name is the shot information: The distance of the shot before it hit the ground is displayed under “In Air”; “Total” displays the total distance of the shot, both in the air and on the ground; “To pin” displays the distance from the ball’s current location to the pin.

To the right of the shot information is a “text box,” which displays three different messages: “Your ball is in play...,” “Your ball has gone IN A HAZARD... Rehit from original spot or drop on next turn. PENALTY—ONE STROKE,” or, “Your ball is IN THE HOLE...”

In the top-right corner of the control panel is the name of the player who is “Next to hit.” To the right of that player’s name, the club that was used to take the last shot is displayed. Under the player’s name is the current lie of the ball.

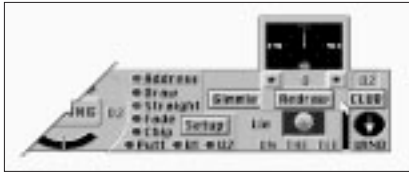
Buttons

There are five buttons which always appear in the post-shot control panel:

Click	To
Save Shot	Record the shot just taken. See page xx for more on this feature.
Forward (Replay)	View a replay of the shot from the spot where the golfer hit the ball.
Reverse (Replay)	View a replay of the shot from the spot where the ball came to rest.
Skip	Skip the player who is supposed to hit next.
View Panel	View the control panel.

There are five other buttons which appear in certain situations:

Button	When displayed?
Mulligan	After every shot, when mulligans are allowed.
Gimmie	When gimmies are allowed, and you are on the green, within two feet of the hole.
Rehit	After the ball is hit into a hazard or out of bounds.
Drop	After the ball is hit into a hazard.
Continue	After every shot, except when the ball is hit out of bounds or into a hazard.



Note: You can click the mouse anywhere in the compass to move the needle to that spot, or click the arrow buttons to rotate the “needle.”

Note: To face in the original direction, change the degrees rotated back to 0.



Note: You can use the rotate feature while in the drop mode.

Rotating the View

LINKS 386 CD allows you to rotate the direction in which the golfer faces. You may do this if you are trapped behind a tree and want to see around it, or you may just want to take a look at the surroundings. The Rotate feature is not for aiming. See “Aiming Your Shot” on page xx.

To rotate the view:

1. Click the Rotate button in the control panel.
2. A compass is displayed, the Rotate button changes to a “Redraw” button, and two arrow buttons appear above the Redraw button. Move the mouse pointer into the compass.
3. Click on the “needle” in the compass, and then drag it in the direction you want the golfer to rotate. The number above the Redraw button displays the degrees rotated and the arrow symbol displays the direction rotated..
4. Click the Redraw button to draw the Main View viewing window, facing in the new direction.

Displaying the Grid

LINKS 386 CD offers a feature called the “grid,” which will help you read the terrain on the course. When you display the grid, a light green grid is placed over the terrain in the Main View viewing window. The grid may be used anywhere on the course, but is most useful on the greens.

To display the grid:

1. Click the Grid button in the control panel before taking your shot.

Dropping the Ball

“Dropping” the ball is an option (1) after you hit the ball into a hazard, (2) if your ball is in an unplayable spot, such as behind or against a tree, or (3) if the ball comes to rest on a cart path. Dropping the ball automatically adds an extra stroke to your score for the current hole in every situation, except when you are dropping off a cart path.

United States Golf Association rules state that when you choose to drop from an unplayable lie, you must drop within two club lengths of the original spot, and no closer to the hole. Off the cart path, it is one length, and no closer to the hole. If you choose to drop after hitting into a water hazard, the ball should be placed as close as possible to the point where the ball entered the hazard, and no closer to the hole.

To drop the ball:

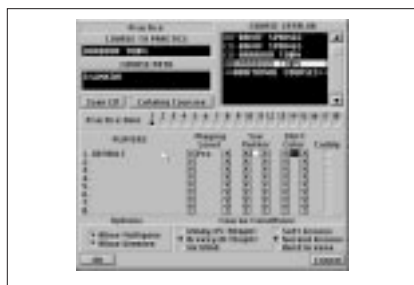
1. After you hit the ball into a hazard, click the Drop button that appears in the post-shot control panel.

Note: If you are dropping from an unplayable lie, or off a cart path, click the Drop button in the control panel before your shot.

Note: If you need to back up to drop the ball, click the Back Up 50 Feet button. When you have backed up, you may then position the cursor. If backing up would move you out of bounds or into a hazard, the Back Up 50 Feet button will not work.



Note: You may create a new player at this point, by clicking the Create a New Golfer button. See page XX for directions on creating a new golfer.



Note: For a more detailed explanation of drawing speed versus graphic quality, see page XX.

2. Four new buttons are displayed in the control panel: “Select New Position,” “Back Up 50 Feet,” “Hit From Here,” and “Return to Original Spot”. To drop the ball in a new position, click the “Select New Position” button.
3. A “ball on tee” cursor is displayed. Move the cursor to where you want to drop the ball, and then click the left mouse button.
4. Then click the “Hit From Here” button.

Practice

There is no separate “driving range” or “chipping and putting” area in LINKS 386 CD. Instead, at the request of many LINKS users, you can practice any hole on any course you have loaded. This allows you to become more familiar with your favorite courses and improve your play by practicing in the specific areas that give you trouble. You can also practice your driving off any tee, and your chipping and putting on or around any of the greens.

To practice:

1. From the menu, click Game, and then in the Game menu, click PRACTICE.
2. The Practice screen, which is almost identical to the “Start a New Game” screen, is displayed. You may practice with up to eight players, whose names must be listed in the “Player List” box.
3. When the players you want to practice with are listed in the Player List box, click the OK button. If you decide not to practice, click the Cancel button to return to the menu.
4. A second “Practice” screen is displayed. Click the name of the course you want to practice in the “Course Catalog” box. The course name is transferred to the “Course to Practice” box.
5. Click the hole you want to practice.
6. Check the player settings (level, tee, shirt color, caddy option), and make any desired changes. Choose whether or not to allow mulligans or gimmies, and then check the Course Conditions.
7. Click the OK button to go to the selected practice hole. Click the Cancel button to return to the first “Practice” screen.

Note: After you finish the practice hole, the second “Practice” screen is automatically displayed. You may then choose another hole to practice.

Changing Game Settings

LINKS 386 CD allows you to set the graphic quality of the program. You may choose to run LINKS 386 CD at the highest possible resolution, but find that the program runs much more slowly. Or, you may prefer to have the program run as fast as possible and not be so concerned with the quality of the graphics. Since each user’s priorities are different, you have the opportunity to adjust the “game settings,” and find your own ideal balance between game speed and graphic quality.



To change the game settings:

1. In the menu, click Game.
2. In the Game menu, click CHANGE GAME SETTINGS.

The Game Settings screen is divided into two sections: The “Speed Section,” which deals with graphic display options that can be adjusted to increase the speed of the program, and the “General Section,” which deals with other types of game and display options.

Speed Section

Bitmapped Sky: The clouds that appear in the sky.

Bitmapped Panorama: The “skyline” that appears in the background with trees, hills, etc.

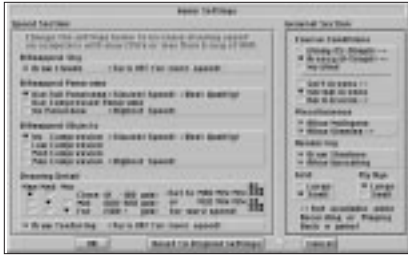
Bitmapped Object(s): Trees, buildings, golf carts, ball washers, etc.

These options require a substantial amount of memory, so the higher the graphic quality (less compression), the better the graphics will look, but the slower the program will run. Since there are so many variables in computer configurations, there are no “correct” selections for these options. You will need to experiment and find the settings which work best for you. If you have only 4 MB RAM, you may want to adjust these settings down somewhat. If you have 8 MB RAM or more, adjusting these settings down will probably not make a significant difference in the speed of the program.

Drawing Detail: Change the graphic quality of the terrain in the Close, Mid and Far areas.

These settings deal with the terrain, as opposed to the bitmapped objects placed on the terrain. The settings can be adjusted, either to speed up the program, or, to improve the graphic quality. The “MAX” settings provides the highest graphic quality and the “MIN” setting provides more game speed. The Close area should be kept at the “MAX” setting, since it is the most visible area. The drawing detail has a slowing effect on computers with less CPU speed, so if you have a fast machine, changing these settings may not make a significant difference. If you have a slower machine, you may want to experiment with the settings.

Texturing: If you choose to “draw texturing,” the grass, water, sand, and other terrain will be “textured,” giving it an added level of realism. This option, like the others, can be turned off to save memory and make the game run faster.



Note: The grid can cover two different-sized areas: The “large” grid covers an area 180 feet wide and 180 feet deep, or 50 feet past the pin, whichever is closer. The “small” grid covers an area 60 feet wide and 180 feet deep, or 50 feet past the pin. The squares in the grid (large or small) are always 40 inches square. For more information on using the grid, see page XX.

General Section

In this section, you can change the game settings that you chose before starting the current game, such as the wind and green conditions, and the mulligan and gimmie options.

Note: For information on the Wind or Green conditions settings, see page xx. For information on Mulligans or Gimmies, see page xx.

“Rendering” deals with some of the basic graphic options. If you choose to “draw shadows,” the trees and other objects will cast realistic shadows. If you “allow upscaling,” objects will scale upward, if needed, as you get close to them. This may produce a more “blocky” appearance..

You may also determine whether the large or small grid is displayed and whether to display the large or small Flybys.

After you make adjustments to the game settings, click the OK button to return to the menu. If you decide not make adjustments, click the Cancel button. If you want to return the settings to their original values, click the Reset to Original Settings button.

Note: Changes made to the Game Settings will affect all future games.



Note: The grid can cover two different-sized areas: The "large" grid covers an area 180 feet wide and 180 feet deep, or 50 feet past the pin, whichever is closer. The "small" grid covers an area 60 feet wide and 180 feet deep, or 50 feet past the pin. The squares in the grid (large or small) are always 40 inches square.

Procedures and Options

Exiting LINKS 386 CD

1. Click the Game button in the menu.
2. Click EXIT TO DOS from the Game menu.
3. A message is displayed, asking you to verify that you want to "Exit to DOS?" Click the Yes button to exit.

Using the Auto-Grid

An "Auto-Grid" option is available, which you can add to a player's settings. The Auto Grid can be set to display the grid automatically whenever you are on the green, or at all times.

To add the Auto-Grid to a player's settings:

1. Click the Players button in the menu.
2. Click CREATE/EDIT/DELETE from the Players menu.
3. Click the name of the player to whose settings you want to add the Auto-Grid.
4. Find the "Auto-Grid" section under the "Animation List box." Choose "On Green" to have the grid automatically displayed whenever you are on the green; Choose "Everywhere" to have the grid automatically displayed on or off the green; Choose "No Auto Grid" to never display the grid automatically (though you are free to turn it on from the control panel).
5. Click the Save button to make the Auto-Grid option permanent.

To change the grid size:

1. Click the Game button in the menu.
2. Click CHANGE GAME SETTINGS from the Game menu.
3. Find the "Grid" section in the lower-right corner of the Game Settings screen and click "large" or "small."
4. Click the OK button.

Viewing Forward and Reverse Replays

After any shot taken in LINKS 386 CD, including “saved shots” and “recorded golfers’ shots,” you can view a forward or reverse replay of the shot.

Note: The vantage point of the forward replay is above and to the right of the spot where the shot was taken. The vantage point of the reverse replay is above and behind the spot where the ball came to rest, facing the direction where the shot came from.



Note: If you click the left button, the swing plane will change from straight to “outsidelin,” and the ball will slice to the right. If you click the right button, it will change to “inside/out,” and the ball will hook to the left.

Note: Moving the ball ahead will cause the shot to have a higher “loft” and travel a shorter distance. Moving the ball backwards will lower the trajectory of the shot.

Note: If you “close” the club face, by clicking the up button, the ball will hook to the left. If you “open” the club face, by clicking the down button, the ball will slice to the right. The sharper the angle of the club face, the more the ball will hook or slice.

Note: Changing the stance does not effect the shot in LINKS 386 CD, and is included for aesthetic value only.

To view a replay of a shot:

After the ball has come to rest and the post-shot control panel is displayed, click either the Forward or Reverse button.

Creating a Custom Shot Setup

LINKS 386 CD allows you to set up two custom shots per club (U1 and U2), for situations when a special shot is called for. By adjusting the stance, ball position, swing plane, and club face angle, you can change the loft of the ball to get more altitude, or the spin of the ball to intentionally hook or slice. You can get to the Setup viewing window in two ways: Add the Setup viewing window to the on-screen arrangement (for instructions, see page xx), or click the Setup button in the control panel.

Note: As in the actual game, custom shots are designed to be used by experienced golfers, who understand the dynamics of the golf swing. If you are not sure about using the Setup, we recommend that you use the standard shot types, and avoid making changes to the settings.

Swing Plane: In the bar across the top of the Setup, click the left or right arrow button to change the path of the club during the swing.

Ball Position: In the bar immediately to the right of the “foot marks,” click the up or down arrow button to move the ball ahead or backwards in relation to the golfer’s stance.

Club Face: In the bar to the right of the Ball Position bar, click the up or down arrow button to change the angle at which the club face will be when it meets the ball.

Stance: In the bar below the “foot marks,” click the left arrow button to “open” the stance, or the right arrow button to “close” the stance.



Note: As is suggested, players can be deleted on this screen. In the “Golfer List” box, click the player you want to delete to display the name in the “Golfer Name” box, and then click the Delete button. A message is displayed, asking you to verify that you want to delete the player. The Save and Delete buttons change to Yes and No buttons. Click the Yes button to delete the player.

Note: For more information on the Grid option, see page xx.

Editing a Player’s Settings

As you become more familiar with LINKS 386 CD and the available player settings, you may decide to change the settings of your golfer.

To change a player’s settings:

1. Click the Players button in the menu.
2. Click CREATE/EDIT/DELETE from the Players menu.

Note: This is the same screen that appears when you create a new golfer.

3. In the “Golfer List” box, find the name of the golfer whose settings you want to edit, and then click the name. The name is displayed in the “Golfer Name” box.
4. Make the desired changes to the settings, and then click the Save button to save the changes.
5. Click the Leave button to return to the menu.

Descriptions of the settings

There are many different settings that you can choose for your player. Some of these settings are essential (clubs, level, tee boxes), some are for convenience (Auto Grid, Caddy), and some are aesthetic and are included for your enjoyment (Golfer gender, Shirt Colors).

Animation List: Choose whether to have a female or male golfer represent the player.

Auto Grid: Choose “On Green” to have the grid automatically displayed whenever you are on the green; Choose “Everywhere” to have the grid automatically displayed at all times, on or off the green; Choose “No Auto Grid” to never display the grid automatically.

Caddy: Choose to have LINKS 386 CD recommend a club for you before each shot.

The club which is recommended may not always be the best club for your shot, depending on factors such as the current lie of the ball, wind strength and direction, or the difference in elevation between the ball and the pin. Remember, even if you are using the “caddy,” you are free to change to a different club.

Chipping Club: Choose the “default” club for the “chip” shot type.

Having a chipping club automatically chosen does not mean that you cannot change to a different club. You are always free to select another club to chip with.

Clubs: Choose up to 13 clubs from the list of 20 clubs available.

The putter is required to be one of the 14 clubs carried in a round, and it is automatically chosen for you when you are hitting on the green. For more information on the Clubs, see page xx.

Level: Choose to have the player compete at the Professional, Amateur, or Beginner level.

Playing at the professional level requires extremely accurate swing timing, and the club distance is maximized. The amateur level is not so demanding on swing timing, but the club distance is about 10% less than at the professional level. The beginner level is designed for children, with the swing timing extremely forgiving, the wind having no effect, and the club distance decreased by about 20%.

Tee Boxes: Choose from which tee the golfer will hit.

In most, but not all cases, the black tees are used for professional tournament play; blue tees are men's tees; white tees are for amateurs, and red tees traditionally are women's tees. On some courses there are no black tees, and some courses use other-colored tee boxes, such as gold or silver. The courses in LINKS 386 CD, however, conform to the basic tee settings.

Shirt Color: Choose one of 10 different shirt colors for your golfer to wear.

Note: When a player is added, his or her name is displayed on the score card with no score recorded for the holes prior to the time the player joined the round. When a player is removed, the name and scores are erased from the score card.

Note: You can allow one player to fill up to all eight openings for a round, if you choose. For example, if you are adding "Golfer1" to a current game that has only one player currently participating, you can add seven "Golfer1" players to the round.

Adding or Removing Players During a Round

You may add players to a game in progress, as long as the total number of golfers participating does not exceed eight. You may also remove a player at any point during a round.

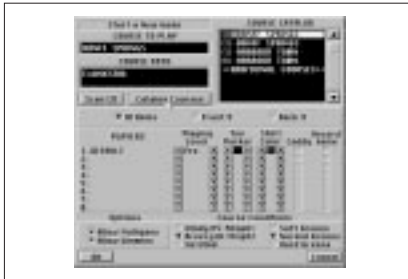
To add a player to the current game:

1. Click the Players button in the menu.
2. Click ADD/REMOVE IN CURRENT GAME from the Players menu.
3. The "Add/Remove in Current Game" screen is displayed. In the "Golfer List" box, click the name of the player you want to add. This transfers the name to the "Player List" box.
4. Click the OK button.

To remove a player from the current game:

1. Click the Players button in the menu.
2. Click ADD/REMOVE IN CURRENT GAME from the Players menu.
3. The “Add/Remove in Current Game” screen is displayed. In the “Player List” box, click the name of the player you want to remove. This transfers the name to the “Golfer List” box.
4. Click the OK button.

Note: There must be at least one player displayed in the Player List box when you click the OK button. If the Player List box is empty, you will need to add a name from the Golfer List box.



Recording a Player's Game

You can choose to record a game in the second “Start a New Game” screen (see page xx), where you select the course and the holes you want to play. Along with the level, tee, shirt color, and Caddy settings are the “Record Game” checkboxes. Click a player’s “Record Game” checkbox to record that player’s game. Once you are into the round, you cannot change this setting or save a game without cancelling the recorded game. Recorded games must be 18 holes.

It is not necessary to record the games of all the players participating in a round, but recording even one player’s game (or playing with a “recorded player”) will effect the way the game is played. In order to avoid discrepancies, all recorded games must be played under identical conditions. For this reason, whenever you are recording a game, or using a recorded player, certain settings and conditions are automatically selected: Pin positions are set; Wind conditions are changed to “No Wind”; Green conditions are set to “Normal”; and gimmies are not allowed. Also, games recorded on one course cannot be used on another course.

Other than the conditions mentioned above, recording a game is no different than playing a regular game. At the end of the round, you need to name your recorded game in order to save it. You are not, however, required to save a recorded game.

Using a Recorded Player as an Opponent

LINKS 386 CD has incorporated a new feature called the “Recorded Player.” You now can record a game and play against yourself, or copy the recorded game file onto a floppy disk, send it to a friend, and let him play against you. The score of a recorded game is available, but you can choose to not view the score before playing. This suspense makes for an exciting match against a “computer opponent” who plays a true game, as opposed to a randomly-generated adversary. In addition, we have included several games which were recorded by members of the LINKS 386 CD team, so you can play against one or more of the “duffers” at Access Software.



Note: If you obtain a Recorded Player file from a friend or from a "BBS," and it won't play, refer to the Trouble Shooting Section for help.

To choose a recorded player to play in a round:

1. Click the Game button in the menu.
2. Click START A NEW GAME from the Game menu.
3. The "Start a New Game" screen is displayed. Click the Use Recorded Players button.
4. The "Use Recorded Player(s)" screen is displayed. In the "Recorded Player List" box are displayed the available recorded games, with the course, player name, date, play level, tee, number of mulligans taken (mul), gender (animation), and the Filename. Click the recorded player you want to play against. This highlights the name.

Note: LINKS 386 CD will operate with one or more recorded players and no "live" players. This represents a kind of "playback" mode, where you can simply sit back and watch. There are two "Pause" points installed so you can interrupt the playback to change windows, view reverse replays, stop the game, etc. The first Pause occurs prior to each swing. Press the space bar at this pause to bring up the Main Menu. You can make changes and then resume "Playback" by clicking on the "Resume Play" button. The second pause occurs at the Post Shot Screen. During this pause you can click on the Forward or Reverse Replay buttons. At either pause, you can continue (shorten the pause) by pressing the left mouse button.

5. Click the OK button.
6. The "Start a New Game" screen is displayed again, with the recorded player's name in the "Player List" box.

From this point on, follow the normal steps for starting a new game (see page XX).

Saving a Game

If you are in the middle of a round and want to finish it at a later time, you need to save the game.



To save a game:

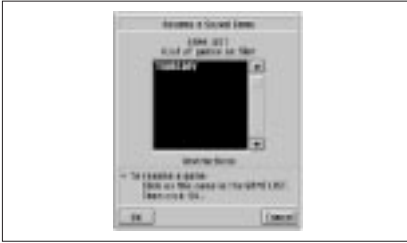
1. Click the Game button in the menu.
2. Click SAVE GAME IN PROGRESS from the Game menu.
3. The "Save Game in Progress" screen is displayed. Move the pointer into the "Filename" box and click, and then type in a name for the game you are saving (with a maximum of eight letters or numbers-no spaces).
4. Click the OK button to save the game and return to the menu. Click the Cancel button to return to the menu without saving the game.

If you have saved a game once before, then resumed playing, and want to save it at the point where you are currently, you can update the saved game file.

Note: You cannot save a game in progress if you are using a recorded player or if you are recording a player.

To update a saved game file:

1. Click the Game button in the menu.
2. Click SAVE GAME IN PROGRESS from the Game menu.
3. The “Save Game in Progress” screen is displayed. Move the pointer into the “Game List” box and click the saved game you want to update to transfer the name to the “Filename” box.
4. Click the OK button to update the saved game and return to the menu. Click the Cancel button to return to the menu without updating the saved game.



Note: When you resume playing a saved game, the players, game settings, and course conditions will be the same as they were when you saved the game.

Resuming a Saved Game

If you have saved games, you can resume playing them instead of starting a new game.

To resume a previously saved game:

1. Click the Game button in the menu.
2. Click RESUME SAVED GAME from the Game menu.
3. The “Resume a Saved Game” screen is displayed. In the “Game List” box, find the saved game you want to resume playing and click it. This will highlight the name.
4. Click the OK button to resume playing the saved game. Click the Cancel button to return to the menu.

Saving a Shot

You tee off on a 172 yard Par 3, get a good bounce, and watch the ball roll into the dead center of the cup...your first hole-in-one! Unfortunately, there’s nobody around to appreciate your incredible shot.

LINKS 386 CD has an option included for situations just like this: The “Save Shot” feature. Now you can save all your best shots and replay them at any time.

To save a shot:

1. After the ball has come to rest, the post-shot control panel is displayed. Click the Save Shot button in the lower-left corner of the control panel.
2. The “Save Shot” screen is displayed. Click in the “Filename” box, and then type in a name for the saved shot (with a maximum of eight letters or numbers).

Note: You may also click one of the names in the “Shot List” box and save the new shot under an older name. Doing this, however, would erase the older saved shot.

3. Click the OK button to save the shot and return to the game. Click the Cancel button if you decide not to save the shot.



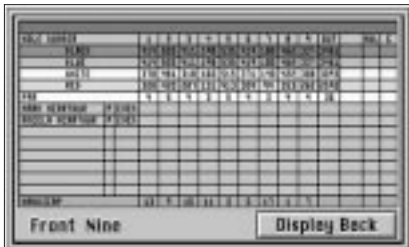
Viewing a Saved Shot

You cannot view a shot from the “Save Shot” screen, so you must get to the “View Saved Shot” screen.

Note: If you are in the middle of a round and attempt to view a saved shot, a message is displayed at this point, warning that the game will be terminated if you view the saved shot, and asking if you want to proceed. The OK and Cancel buttons change to Yes and No buttons. Click the Yes button to view the saved shot.

To view a saved shot:

1. Click the Game button in the menu.
2. Click VIEW SAVED SHOT from the Game menu.
3. The “View Saved Shot” screen is displayed, with all the saved shots listed in the “Shot List” box. Find the saved shot you want to view, click on it to highlight it, and then click the OK button.
4. When the saved shot is finished replaying, click the Continue button to return to the “View Saved Shot” screen, where you can choose to view the shot again, view a different saved shot, or click the Cancel button and return to the menu.



Note: The handicaps are provided for informational purposes only and are not used in LINKS 386 CD.

Viewing the Score Card

The Score Card displays the names of the players, their levels, their over/under par scores, and their scores for each hole, as well as other information typically found on a score card. The “Out” total (the number of shots taken on the front nine) is displayed on the front of the Score Card. The “In” total (the number of shots taken on the back nine), and the “Total” number of shots taken on all 18 holes, are displayed on the back of the Score Card. The number of mulligans and gimmies taken by each player is recorded. The distances from the different tee boxes to the pin on each hole are displayed, as well as the par and handicap for each hole.

To view the score card:

Click the Scores button in the control panel, or choose the Score Card viewing window to be added to a template and kept on the screen at all times (see page xx for more information on choosing viewing windows).

Viewing the Intro Sequence

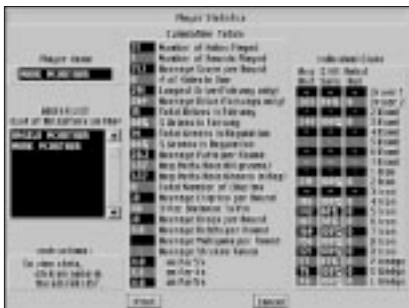
You can view the Intro Sequence at any time by doing the following:

1. From the main Menu, click on the SPECIAL button.
2. Click on the PLAY INTRO button from the special menu.

Viewing the Statistics Screens

LINKS 386 CD compiles and records three different sets of detailed and comprehensive statistics: Player Statistics, Course Statistics, and Game Statistics. These are available to assist you in analyzing and improving your game.

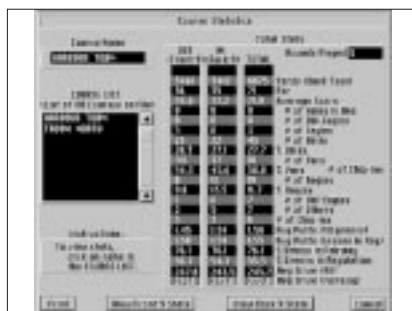
Player Statistics: These are the statistics for individual players. There are over 80 player statistics.



Course Statistics: These are the statistics for an individual course. There are no statistics available until you have played. Each time you play, the statistics are updated. There are almost 400 different course statistics displayed.



Note: On the Player Statistics screen, look in the “Golfer List” box to find the player whose statistics you want to view, and then click the name.



Game Statistics: The “Game Statistics” screen appears **only immediately after a round is completed**, and displays the statistics generated by the players during the round. There are 25 game statistics for each player that participates in a round (making a possible total of 200 statistics).

Note: Statistics are not available until you have played 18 holes.

Note: If you have a printer, you can choose to print out the “game stats.” If you don’t have a printer refer to “Printing Without a Printer” later in this chapter.

To view the Player and Course statistic screens:

1. Click the Stats button in the menu.
2. Click either PLAYER STATISTICS, or COURSE STATISTICS from the Stats menu.

Using Statistics to Improve Your Game

As you become familiar with the basics of LINKS 386 CD, you will want to develop your game and turn your weaknesses into strengths. The challenge of 386 CD will then be in your ability to elevate your game to a higher level. The in-depth array of statistics broken down by game, player, and course will give you the necessary information you need to analyze and assess the areas of your game which need improvement.

The great thing about statistics is that they are based on actual results. By breaking down the results of your game into elements, you can identify where refinement is warranted. Here are some examples of how LINKS 386 CD’s statistics can be used to improve your game.

A. Review the GAME STATS print-out of your most recent game. Identify the holes you’ve played which were over par. Use the PRACTICE option under the GAME menu to play that hole until you’ve mastered it. You may also review the average score for each hole on a particular course and identify those which give you the greatest challenge. Go to the COURSE STATS area under the STATS menu and select the course you wish to improve on.

B. Monitor the following statistics of your game under PLAYER STATS:

1. **% of Drives on Fairway**—Your percentage should be close to 100% for optimum game play.
2. **% of Greens in Regulation**—Your percentage should be close to 100% for optimum play.
3. **3 Par distance to Pin**—Keep this number as small as you can and your birdie percentage should increase.

4. Average strokes Taken—Keep this statistic close to or under par.

Par 3's Keep to 3.0 or less

Par 4's Keep to 4.0 or less

Par 5's Keep to 5.0 or less

Player Statistics (Cumulative Totals)

Number of Holes Played: All the holes you have played with your player.

Number of Rounds Played: Holes played divided by 18 (used for average round stats).

Average Score per Round: Average number of shots taken per 18 holes.

of Holes-in-One: Number of holes-in-one.

Longest Drive (Fairway only): The longest drive off the tee that landed in the fairway.

Average Drive (Fairways only): Average of all drives that landed in the fairway (D1 or D2).

Total Drives in Fairway: Number of drives off the tee that landed in the fairway (D1 or D2).

% Drives in Fairway: Percentage of drives off the tee that landed in the fairway (D1 or D2).

Total Greens in Regulation: Number of times you reached a par 3 green in one stroke; a par 4 green in two strokes or less; or, a par 5 green in three strokes or less.

% Greens in Regulation: Percentage of greens that you reached in regulation.

Average Putts per Round: Average number of putts taken per 18 holes.

Avg. Putts/Hole (All Greens): Average number of putts taken on all greens you've played.

Avg. Putts/Hole (Greens in Reg.): Average number of putts on greens reached in regulation.

Total Number of Chip-Ins: Number of times you've hit the ball in the hole not using the putter.

Average Chip-Ins per Round: Average number of times you chip-in per 18 holes.

3-Par Distance to Pin: On par 3 holes, the average distance to the hole after your first shot.

Average Drops per Round: Average number of times you use the Drop option per 18 holes.

Average Rehits per Round: Average number of times you rehit per 18 holes.

Average Mulligans per Round: Average number of mulligans taken per 18 holes.

Average Strokes Taken:

On Par 3's: Average number of shots needed to finish par 3 holes.

On Par 4's: Average number of shots needed to finish par 4 holes.

On Par 5's: Average number of shots needed to finish par 5 holes.

Player Statistics (Individual Clubs)

Avg. Dist.: Average length of a shot using that club.

% Hit Safe: Percentage of shots hit with that club that landed in the fairway or on the green.

Holed Out: Number of times the ball was hit into the hole using that club.

Course Statistics

Rounds Played: Number of times this course has been played.

Handicap: (For information only) Difficulty rating of holes (low numbers hardest).

Yards (Back Tees): Length of the hole for the tee furthest from the pin.

Par: The number of shots officially deemed necessary to finish the hole.

Average Score: Average number of shots needed to finish the hole.

of Holes in One: Number of holes-in-one on this hole.

of Dbl-Eagles: Number of times the hole has been finished three strokes under par.

of Eagles: Number of times the hole has been finished two strokes under par.

of Birdies: Number of times the hole has been finished one stroke under par.

% Birdies: Percentage of time players finish this hole one stroke under par.

% Pars: Percentage of time players finish this hole at par.
% of Bogies: Percentage of time players finish this hole one stroke over par.
of Dbl-Bogies: Number of times players finish this hole two strokes over par.
of Others: Number of times players finish this hole more than two strokes over par.
of Chip-Ins: Number of times players have hit the ball in the hole not using the putter.
Avg. Putts (All Greens): Average number of putts taken on this hole.
Avg. Putts (Greens in Reg.): Average number of putts after reaching the green in regulation.
% Drives in Fairway: Percentage of drives off the tee that landed in the fairway.
% Greens in Regulation: Percentage of time the green has been reached in regulation.
Average Drive (All): Average of all drives off the tee using D1 or D2.
Average Drive (Fairways only): Average of all drives off the tee that landed in the fairway using D1 or D2.

Game Statistics

Front 9 Par: Number of strokes officially deemed necessary to finish the first nine holes.
Back 9 Par: Number of strokes officially deemed necessary to finish the last nine holes.
Total Par: Number of strokes officially deemed necessary to finish all 18 holes.
Player: The number corresponds to the “Player List” box.
Number of Holes Played: Number of holes the player finished.
Level: The player’s level during the round.
Tees: The tee box from which the player hit during the round.
Score Front 9: Total number of strokes taken by the player for the first nine holes.
Score Back 9: Total number of strokes taken by the player for the last nine holes.
Score Total: Total number of strokes taken by the player for all 18 holes.
of Holes in One: Number of holes-in-one hit by the player.
of Dbl-Eagles: Number of times the player finished a hole three strokes under par.
of Eagles: Number of times the player finished a hole two strokes under par.
of Birds: Number of times the player finished a hole one stroke under par.
of Pars: Number of times the player finished a hole at even par.
of Dbl-Bogies: Number of times the player finished a hole two strokes over par.
of Others: Number of times the player finished a hole more than two strokes over par.
Longest Drive (Fairway only): The longest drive off the tee that landed in the fairway.
Average Drive (Fairways only): Average of all drives that landed in the fairway.
Total Drives in Fairway: Number of drives off the tee that landed in the fairway.
% Drives in Fairway: Percentage of drives off the tee that landed in the fairway.
Total Greens in Regulation: Number of times the player reached a par 3 green in one stroke; a par 4 green in two strokes or less; or, a par 5 green in three strokes or less.
% Greens in Regulation: Percentage of greens that the player reached in regulation.
Total Putts: Number of putts taken by the player during the round.
Avg. Putts/Hole (All Greens): Average number of putts taken on the greens during the round.
Avg. Putts/Hole (Greens in Reg.): Average number of putts on greens reached in regulation.
Mulligans: Number of mulligans taken by the player during the round.
Gimmies: Number of gimmies taken by the player during the round.



Note: Only courses in the LINKSCD directory can be deleted using the “Delete” feature.

Deleting (Games, Courses, Players, Recorded Players, and Saved Shots)

LINKS 386 CD includes a feature that will make deleting saved games, courses, players, recorded players, and saved shots extremely simple and convenient.

To delete a saved game, course, player, recorded player or saved shot:

1. Click the Game button in the menu.
2. Click DELETE from the Game menu.
3. The “Delete” screen is displayed. Under “Type,” there are five buttons: Saved Games; Recorded Players; Players; Courses; and, Saved Shots. Click the button corresponding to the type of item you want to delete.
4. Clicking one of the “type” buttons displays all the available items of that type in the “Filenames” box. For example, click the Courses button to display all the courses you have loaded into the LINKS386 directory.
5. In the Filename box, click the item you want to delete. This will highlight the item.
6. Click the OK button to display a message, asking you to verify that you want the item deleted.
7. The OK and Cancel buttons change to Yes and No buttons. Click the Yes button to delete the highlighted item.

Printing Your Score Card and Statistics

To print the score card:

Note: The score card can be printed at any point in a game.

Click on the “Print” button while the score card is on screen

— or —

Click the Game button in the menu, and click PRINT SCORE CARD from the Game menu.

To print the Player, Course or Game statistics:

1. Make sure your computer is set up to print.
2. Click the Stats button in the menu.
3. Click either PLAYER STATISTICS or COURSE STATISTICS from the Stats menu.
4. Click the Print button at bottom of the screen.

Printing Without a Printer

Even if you don’t have a printer connected to your computer, you can still get a “file” printout of your scorecard and the game, player and course statistics.

You may then transfer this file(s) to another computer that has a printer. These files can be printed out as you would any normal text file.

Follow the steps below.

1. Bring up the screen you wish to print.
2. Click on the print button. An error message will say that you have no printer, but at the same time, LINKS 386 CD will dump the information to a text file.
3. Exit to DOS.
4. Copy the appropriate file(s) to a floppy disk.
5. Take the files to any computer with a printer and print them as a normal text file.

Note: These files will contain the image of the last print print request, therefore you cannot do more than one player or course at a time.

There are 6 separate files, one for each possible full page printout. File names are as follows:

SCORCARD.PRN	Scorecard Screen
GAMSTATS.PRN	Game Statistics Screen
PLRSTATS.PRN	Player Statistics Screen
BACK9.PRN	Course Statistics Screen
FRONT9.PRN	Course Statistics Screen
TOTAL18.PRN	Course Statistics Screen

Printer Setup

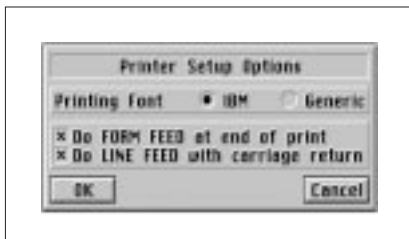
Since there are many variables from one printer to another, you may need to use the printer setup to maximize the quality of the score card print-out.

To change the Printer Setup:

1. Click the Options button in the menu.
2. Click PRINTER SETUP OPTIONS from the Options menu.
3. The "Printer Setup Options" screen is displayed. Click the appropriate "Printing Font."

Note: The IBM font setting is higher quality, but some printers may not be capable of printing in this font. If you print the score card and it comes out with unreadable symbols and markings, try changing the font to Generic.

4. If applicable, click the checkbox to the left of "Do FORM FEED at end of print," or "Do LINE FEED with carriage return."



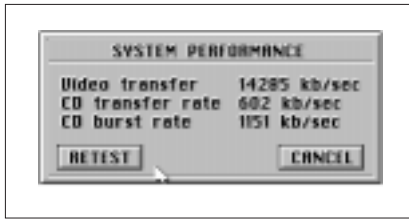
Note: If you have selected "Do LINE FEED with carriage return," and you get double-spacing on the score card where there should be single-spacing, try turning this option off.

Testing the Performance of your Video Card and CD-ROM Drive

You can test the performance of your video card and your CD-ROM drive at any time. Choppy Flyby's or sound that breaks up can be the result of poor performance by either or both of these devices.

To activate the Performance Test:

1. From the main Menu, click on the OPTIONS button.
2. Click on the PERFORMANCE TEST button from the options menu.



The **Video transfer** rate represents the speed at which video images are placed on the screen. This is a function of both the speed of the VIDEO CARD and the speed of the CPU. Values below 5000 kb/s are considered slow. Values above 12000 kb/s are considered fast.

The **CD transfer rate** is the rate at which data comes off the CD into the drive's internal buffer. Transfer rates vary from 150 KB/sec (single spin) to 600 KB/sec (quad spin). The **CD burst rate** is the rate at which data is sent to the CPU from the internal buffer. This is a function of the CD-ROM drive, the interface (SCSI, IDE, etc.), and the CPU speed. Burst rates vary from 300 KB/sec to 2 MB/sec. Higher rates are better. Transfer rates below 300 KB/sec and burst rates below 450 KB/sec may cause poor display performance in LINKS 386 CD, especially if associated with a slow video card.

Playing in On-Line Tournaments

Once you get the feel of LINKS 386 CD you might consider introducing competition to enhance your game satisfaction. Computer Sports Network, a Houston, TX based company offers national and regional tournament play for those users of LINKS 386 with modems. You can compete weekly against 200 fellow regional club members for the chance to qualify for national events and the "Pro Tour." Amateur golfers can compete either gross or "net" (using a handicap). "Pro Tour" players compete gross only. Only the top 20 players from each region will qualify for the national tournaments. Complete stats are kept for both the season and each tournament including all those used in LINKS 386 CD. For more information and tournament pricing call toll-free 1-800-840-2362 or FAX to 713-952-7138.

Technical Reference

The Sound System

Getting your sound to work correctly is often the most difficult and frustrating part of setting up any game. If you're having problems, you may find some comfort in the fact that you're not alone. Try not to get discouraged. Read the following information carefully and try to find a solution that may apply to your card. Don't be afraid to try different solutions. If you give it your best shot and still can't get it working, call our technical support department.

LINKS 386 CD has Digital Sound Only

Many games use both digital sound and MIDI music. LINKS 386 CD uses only digital sound. There is no MIDI music in the game and therefore no requirement for a MIDI music device.

Setting Your Sound Device (Sound Card)

The first time you start the game you will be taken to the Set Sound Device screen automatically to configure your sound device. After the first time, you can get to the Set Sound Device screen through the Sound Options as follows:

1. Click the OPTIONS button on the main MENU.
2. Click the SOUND OPTIONS button.
3. Click the SET SOUND DEVICE button.

This will bring up the Set Sound Device screen, which is where you specify your sound card and its I/O, IRQ, and DMA settings.

Note: If you do not know which device you have or which settings to use, click the AUTO DETECT button. (See next page)

Highlight your device (card) in the DEVICE LIST by clicking on it. Then use the UP or DOWN arrows to change the I/O Port, Interrupt and DMA channel settings. Now TEST THE DEVICE by clicking the SOUND TEST button. If you hear digitized speech, then the test was successful and you should click OK to continue. If you do not hear any speech, the test was not successful.

You may want to try other I/O, Interrupt and DMA settings, or you may want to try AUTO DETECT again.

For instructions on how to turn specific sounds on and off, set the volume, or change sound files, please refer to page xx.

Using the AUTO DETECT Feature

If you do not remember which sound card you have (a common problem) or which settings to use (a very common problem), you can ask the Sound Module to find out for you. This feature is called AUTO DETECT and works as follows: The program has a list of sound cards and it knows how each card is supposed to respond when interrogated. Starting with a common card, the program checks to see if it is “OUT THERE.” If there is NO RESPONSE, then the next card is checked and so on. If the card DOES RESPOND, then the appropriate settings are retrieved and the program pauses and displays the name of the card and the settings. At this point you can click the ACCEPT button to stop the AUTO DETECT process or click the CONTINUE button to keep trying.

Lockups during Auto Detect

Some sound cards do not react well to the interrogation process and may LOCK UP the computer. If this happens, reboot and try AUTO DETECT again. The program keeps track of combinations which cause a lock up and will not try that combination again. If you install a new sound card, be sure to click the CLEAR LOG button before using AUTO DETECT.

Phantom Detections

Some sound cards can be mistaken for other cards. This produces what is called Phantom Detections. The Auto Detect process appears to find a card that really isn't there and the Sound Test doesn't work. In this case you should try AUTO DETECT again and select CONTINUE rather than ACCEPT when the program pauses on the phantom card.

Information About Specific Sound Cards

If you are not sure which sound card is installed, please check the documentation that came with the computer. Also, please select your card if it is in the device list, even if your card is supposed to be “Sound Blaster compatible”.

The abbreviations **SB** and **MSS** are used extensively in the following descriptions. **SB** represents **Sound Blaster** and **MSS** stands for **Microsoft Sound System**.

Adlib Gold

This sound card is supported directly and shouldn't require any changes.

Aria

For cards with this chipset, select either **SB 1.0 (No verify)** or **SB PRO (No verify)** from the device list. You might also have to obtain an update to fix the Sound Blaster compatibility. The update program is called **SB201.COM** which should be available from the maker of the sound card. We are currently trying to get revised drivers for this card.

Aztech

Sound Galaxy - These cards have both Sound Blaster and Microsoft Sound System emulation. They usually work correctly in SB mode. If that doesn't seem to work, you can try MSS mode. You may have to run a utility program to switch modes. Please check the documentation that came with the card.

Sound Galaxy NOVA 16 - This card is supported directly and shouldn't require any changes.

Diamond

Sonic - This card seems to work correctly under Sound Blaster 1.0 with verification turned off. Select **SB 1.0 (No Verify)** from the device list.

Sonic LX - This card emulates both Sound Blaster and Microsoft Sound System. MSS emulation uses 16 bit sound so the quality is better. If you use the Sound Blaster mode, see the notes for the Sonic above.

Ensoniq Soundscape

If you have the latest drivers (version 1.20 or greater), the card should work without any modifications. If you have drivers that are older than 1.20, you will need to switch the card to FM mode before starting the game. We recommend that you get version 1.20 (or greater) from Ensoniq if you do not already have them. These drivers greatly improve the compatibility of this card.

ESS Audiodrive

The 16 bit version of this card should work correctly when ESS AUDIODRIVE is selected from the device list. Sometimes Auto Detect will sense this card as a Sound Blaster 16. Just click the CONTINUE button to keep searching and this card should be detected. The 8 bit version (installed in some notebook computers with business audio) will not work.

Forte 16

Set up this card in either Microsoft Sound System or Sound Blaster mode. No changes will need to be made to the setup of the sound card itself. Many of the new Packard Bell computers use this sound card.

Gateway 2000 Soundcards

Ensoniq - Please see the section entitled Ensoniq Soundscape listed above for information about this card.

G2KAUDIO - This sound card can be set up as a Sound Blaster 1.0 or as a Microsoft Sound System. If you set up the card for MSS mode, the DMA on this card **MUST** be changed to 1 instead of the default of 0. You would need

to open the computer and change the jumpers on the sound card. Please contact Gateway for help in changing the DMA to 1.

Jazz Audio - This card should be set up as a Sound Blaster 1.0. There is a known problem when the card is initialized in Windows mode. If you start up Windows before running the game, our program will not be able to detect the card correctly. If your computer goes directly to Windows on start up, you will have to change the AUTOEXEC.BAT file so that the computer does NOT start up to Windows.

Genoa Audioblitz

This sound card is based on the Microsoft Sound System chipset and the game seems to work better when the card is set up in the MSS mode. To do this, run the file called AB16.EXE from your GENOASND directory. Then select CONFIGURE and mark the box for MSS mode (sometimes listed as WSS). Next click OK, and then Quit Test. Now run the game, and select Microsoft Sound System from the device list. Be aware that some other programs may require this sound card to be set in Sound Blaster mode.

Gravis

Ultrasound and **Ultrasound Max** - These cards are supported directly from our device list and shouldn't require any changes.

Logitech

Soundman 16 - This card should work correctly as either a SB 1.0 or Pro Audio Spectrum 16. We suggest the Pro Audio 16

Soundman Wave 16 - This card is SB 1.0 or SB Pro compatible and should work as such in the game.

MAD 16

ISP 16

Media Magic

All three are based on a Microsoft Sound System chipset and should work when set up in MSS mode. To switch between sound modes, you may have to run a utility program. The program is usually called M16INIT.EXE or ISPINIT.EXE.

When you run this program:

1. Click on Configure
2. Select WSS
3. Click on OK
4. Quit Test

Then run the game and select Microsoft Sound System from the device list.

Mediavision

Pro 3D - This card should work correctly as either a Sound Blaster 1.0 or SB Pro.
ProAudio Spectrum - Please refer to the section titled ProAudio Spectrum.

Microsoft Sound System

This card should not require any changes. Just select Microsoft Sound System in the device list and it should work correctly.

Mozart

This card will work best when set up in Microsoft Sound System mode. To switch modes, go to the sound card directory (normally called MOZART) and run the mode switching program called MZTMODE.EXE. To switch to MSS mode, type MZTMODE WSS. To switch to SB mode, type MZTMODE SB. You may want to create a batch file that switches to MSS mode before starting the game and then switches back to SB mode when it exits. Be sure to run the game and select Microsoft Sound System mode in the device list.

ProAudio Spectrum (8 bit or 16 bit)

This card should work as either a Sound Blaster 1.0 or ProAudio Spectrum. You might also try selecting **SB 1.0 (No Verify)** from the device list. This card has two interrupts, and unless you have disabled one, you will have to set up the card (outside the game) with two different interrupt (IRQ) numbers. Usually the ProAudio side is set to IRQ 7 and the Sound Blaster side is set to IRQ 5. **Do Not set both interrupts to the same number or the sound will not work.**

Reveal

Stereo FX - Can be set up in either Sound Blaster Pro or Microsoft Sound System mode. There is usually a utility program called SETMODE.EXE that is used to switch modes. Type SETMODE /MSS to select MSS mode or SETMODE /SBP to select SB mode. The SETMODE utility is normally in the MMP16P directory on the Stereo FX utility disk.

Sound Wave FX - This card is essentially an Ensoniq Soundscape and should work correctly when Ensoniq Soundscape is selected from the device list. You can also make the card emulate a Sound Blaster. Use the utility program called SNDINIT (that came with the card) to switch into SB mode.

Roland RAP-10

This card is supported directly and shouldn't require any changes.

Sound Blaster

SB 1.0 - This card should work correctly without any problems. If you have an older version of this card, you will want to select SB 1.0 (No verify) from the device list.

SB Pro - This card should work without any problems. The only conflict could be if you have the card set to IRQ 10. The drivers do not seem to accept IRQ 10 as a valid interrupt for this particular card.

SB 16 - The only problems we have seen are with motherboards that cannot use the 16-bit High DMA's correctly. If your sound card is using one of the high DMA's, run the setup program for the card and select DMA 1 for the high DMA, then run our game and set the DMA to 1.

SB AWE 32 - Auto Detect may think this card as an SB 16 so you may need to manually select SB AWE 32. This card may also run into a problem when using the high DMA's similar to the SB16. Try changing the card to use DMA 1 as described above.

Tandy Sensation Sound Cards

The sound cards that are built onto the older Tandy Sensations are designed to be Adlib compatible. Unfortunately, the drivers with our game do not recognize this card as completely Sound Blaster compatible. Therefore this sound card will not work for Digital sound. The onboard sound system on this computer can be disabled if you are interested in installing a different sound card. Refer to the computer's hardware documentation. The newer Tandy Sensations have Sound Blaster 16 cards in them and should work fine.

Turtle Beach

Maui - This card does not support any Digital playback and will therefore not work with the game.

Monte Carlo - This card seems to work better in Microsoft Sound System mode. To do this, go to the MCARLO directory and type MCMODE MSS to switch to MSS mode before starting the game.

The Graphics System

LINKS 386 CD supports a standard video bios extension called VESA, which stands for the Video Electronics Standards Association. The VESA committee, has developed this standard to give software developers a common interface to all the different video cards on the market. The great thing about VESA is that most new video cards have the extension built in, and most older cards have a software program called a VESA driver which makes the card VESA compatible. Since most games that run in SuperVGA now support the this standard, once you get your VESA system working, you will be able to run these games without worrying about your video card.

Installing and Testing Your VESA Driver

If you've just recently purchased your video card, it should be VESA compliant and the driver may be contained in ROM. This means that you may not have to install a VESA driver.

If the program aborts with a message such as "VESA driver required," then the driver was not found and you'll have to install one.

Installing a VESA driver is a fairly simple process if you are familiar with how to modify your AUTOEXEC.BAT file. If you're not, be sure to follow METHOD 1, the automatic installation method, which is outlined later. A VESA driver that works with your video card should be contained on a Utility Disk that came with the card. There may or may not be information in the video card manual about how to install or use the driver. Normally the

driver will have a name that contains the word VESA or VSA and will have a '.COM' or '.EXE' extension. For example, **VESA.EXE**, **VVESA.COM**, **ORCHDVSA.COM** and **TLIVESA.COM** are all names of current VESA drivers.

If your card didn't come with a driver, you should be able to find a matching driver from the VESA Library included with this program. If you choose to try the Automatic Method, which is explained later, this will be done for you, if possible.

Read each of the cases below to determine which one applies to you and then follow the appropriate instructions.

CASE 1: If you are new to computers and do not know how to modify your AUTOEXEC.BAT file, follow the instructions for METHOD 1.

CASE 2: If you have a basic knowledge of your computer and know how to change your AUTOEXEC.BAT file, follow the instructions for METHOD 2.

METHOD 1: The Automatic Method

Follow the steps below very carefully.

STEP 1: Insert the CD into the CD-ROM drive.

STEP 2: Switch to the CD-ROM drive.
Type: **D:** [Enter] where D: is the letter of your CD-ROM drive.

STEP 3: Run the program called SETVESA which will help you install and test your driver.
Type: **SETVESA** [Enter]

STEP 4: Select item 3 "Install VESA Driver", from the menu. (Use the cursor keys to move the highlight bar down to item 3, then press [Enter])

STEP 5: Select item 2, "Automatic Method", from the menu. (Again, use the cursor keys to move the highlight bar, then press [Enter].)

STEP 6: Follow the instructions on the screen.

METHOD 2: The Manual Method

Using this method requires that you have at least a basic understanding of DOS and how to change your AUTOEXEC.BAT file. We will explain the process in detail. You will then install your VESA driver and use the program called SETVESA (included with LINKS 386 CD) to test the results. Even if you know what you're doing, you may want to use the "Automatic Method" (see above) to see if the

SETVESA program can find and install the correct driver for you. You can always use the "RESTORE" option to return the AUTOEXEC.BAT to its original state.

Follow the steps below very carefully.

- STEP 1: Determine which video card you have. If you are not sure which video card you have, please use the MSD utility included with DOS 6 and Windows 3.1 to find the name of the video card. (Go to the WINDOWS or DOS directory and type MSD). If the Video BIOS date (reported in MSD) is prior to 1991, the card may not be VESA compatible and may not work with the game.
- STEP 2: Insert the CD into the CD-ROM drive.
- STEP 3: Switch to the CD-ROM drive.
Type: **D:** [Enter]
where D: is the letter of your CD-ROM drive.
- STEP 4: Run the program called SETVESA which will help you install and test your driver.
Type: **SETVESA** [Enter]
- STEP 5: See if you have VESA in ROM or if a driver is already installed by selecting the 'Check VESA driver' option (item 2) from the main MENU. **If a driver IS installed, go to STEP 9.**
- STEP 6: Locate the VESA driver that appears to match your card. VESA drivers are located on the CD in the VESA directory. Either get the driver from your card's utility disk or from the VESA Library that is included on the CD. If the driver is on your card's utility disk, copy it into the root directory on your boot drive. (Or wherever you wish, but remember where you put it.)
- STEP 7: Install the VESA driver as follows:
- Option 1. Execute the driver from the command line. (You will have to execute the driver before you run a program such as LINKS 386 CD that uses VESA.)
Option 2. Make a backup copy of the AUTOEXEC.BAT file, then place the driver call in the AUTOEXEC at or near the bottom. Then reboot the machine. (The driver will be installed automatically whenever the machine is booted.)

NOTE: If your card is a PERFECT VIEW or an STB, you may have to place the driver call at the TOP LINE of your AUTOEXEC. These drivers may have to be installed BEFORE the mouse or other video drivers.

- STEP 8: Return to the SETVESA program and make sure the driver is installed by choosing “Check VESA Driver” (Item 2) from the main MENU.
- STEP 9: Test the driver by selecting ‘Perform Test’ (Item 5) from the main MENU.
- STEP 10: If the test works, Great! YOU’RE DONE! If not, continue.
- STEP 11: If the test does not work, you should review and possibly repeat the process using the same driver. Make sure you’ve done everything correctly. Try placing the driver call at the top of the AUTOEXEC, or try using other drivers.

Information About Specific Video Cards

There are 3 main requirements for a video card to work with the game.

1. The video card **MUST** be SuperVGA supporting 640x400 or 640x480 in 256 colors.
2. The card **MUST** have at least 512K of video memory.
3. The card **MUST** be VESA compliant. (This does NOT mean that it has to be a VESA Local-Bus card. Either ISA bus, VLBus, or PCI bus will work, although VLB and PCI are much faster than ISA.)

If you are not sure which video card you have, please use the MSD utility included with DOS 6 and Windows 3.1 to find the name of the video card. (Go to the WINDOWS or DOS directory and type MSD). If the Video BIOS date (reported in MSD) is prior to 1991, the card may not VESA compatible and may not work with the game.

The following gives specific information about the VESA compatibility of many cards. For help installing the VESA driver, refer to “*Installing and Testing Your VESA Driver*” on page xx.

Many of the VESA drivers referenced below can be found on the CD in the \VESA directory.

Ahead

The driver included with the game called VESA.EXE will work with most versions of this card. Some versions may require a driver from the utility disks that came with the video card.

Appian

The driver called APVESA.EXE should work correctly with this card. If you can't get it to work, you may have to load the driver from the utility disks that came with the video card.

ATI

Mach32 - This video card requires a driver called VVESA.COM or VVESAPCI.COM that should be installed in the MACH32 or MACHPCI directory already on your hard drive. The version of the VVESA.COM included with the game may not work with this card.

Mach64 - The VESA driver is already built onto this video card and it should not need any outside drivers.

Wonder, Ultra - These cards will work correctly with the VVESA.COM driver that is included with the game.

BOCA

The drivers that are included with the game work for most current versions of this card. Some newer versions might require a newer driver that should be included with the card.

Chips and Technologies

There are several different versions of this card, some are VESA compatible and others are not.

With some models, you will need to load the VESA driver that comes with the card. Other versions need to be run with the /1 parameter when starting the game to run at 640x480x256 colors (i.e. GOLFC.D /1). The **450,451, & 452** models all should be VESA compatible and will work with the drivers that are included with this game.

Cirrus Logic

CL GD542X - This card should have the VESA driver in ROM and should not need to have a separate driver loaded. If a VESA driver does not appear to be working, try disabling any memory managers, especially QEMM. Another note, if you experience distorted, static sound from your sound card, you may need to load external VESA driver for this card. The driver is called 542XVGAL.EXE and is included with the game.

CL GD6410 - This card is not VESA compatible and will not work.

Compaq Computers

Deskpro - This computer uses a QVISION card and you will need to load the driver called CPQVESA.EXE that is included with this game.

Presario, Prolinea 486 - This computer normally has the Tseng Labs video card. You will want to load the driver called TLVESA.COM that is included with this game.

Prolinea 386 - Many of these computers have a Western Digital video card and the driver that you will want to load is called VESA1C.EXE that is included with this game.

Compaq Laptops - Many of the laptops are NOT able to run the game, but there are a few that can. You will want to try the driver called CPQVESA.EXE.

If you are not sure of the video card or the correct VESA driver for your computer, please contact Compaq.

Diamond

Viper - To load the driver for this card, go to the VIPER directory that was created when the card was installed and type VPRMODE VESA to put the card in SVGA mode.

Stealth - This card should have the VESA driver built in and shouldn't require any external drivers. Sometimes a built-in power saving device can cause the screen to go black in the middle of the game. If this is the case, look for two lines in the AUTOEXEC.BAT file that resemble the following:

C:\ST64\MODE MONITOR and C:\ST64\DPMS.EXE. REM out these lines and reboot the computer, and the problem should be resolved.

Speedstar - Some of these cards have the VESA driver built into the card and do not require any external driver. Other versions of the card might require a driver (24XVESA.EXE or TLIVESA.COM) from the VESA library that comes with this game. Some versions of the Speedstar can cause static while sound is being played. If this occurs, you will need to load the file called PROBIOS.EXE from the Speedstar install disks.

Everex

The driver called VESA.COM that comes with this game will work with the older versions of the card. For newer cards, you will have to load the VESA driver that comes with the card.

Genoa

Most of these video cards use the Cirrus Logic chipset, so please refer to the Cirrus Logic section for suggestions on setting up the card.

Headland Technologies (GY/LSI Logiccorp)

This card is VESA compatible and will work with the game if you load the HTVESA.COM driver that comes with this game. This driver needs to be loaded with the /1 parameter and not the /2 parameter (i.e. HTVESA /1)

IBM PS/1 or PS/2

The video cards that are installed in these computers vary greatly from model to model. You can try loading the two drivers in the IBM section of SETVESA but many times you will need to load the VESA driver that was included with the computer on a video utility disk. If you are unable to determine which video card is installed, please contact IBM to find the manufacturer of the video card, the amount of RAM on the card, whether the card is VESA compliant and which VESA driver to load.

Matrox

If the Matrox card that you have does not have the VESA driver built into it, you will want to load the driver called MGAVESA.COM from the original Matrox install disks. The Matrox cards are designed for optimum Windows performance and DOS performance is often quite poor. This is a weakness in this video card and is not a problem with the software.

Number Nine

There are no drivers for this card in the game. Normally this card will work without any changes. If you're having problems you may need to load a VESA driver from the utility disks that came with the card.

Oak Technologies

OTI 37 (Version 2.XX) - This card is an older chipset and is not capable of supporting 640x400x256 colors. This card will not work with the game.

OTI 67 (Version 1.04) - This card should work correctly if you load the 67VESA.COM driver that is included with this game.

OTI 67 or OTI 77 (Version 1.05-1.06) - This card will require the driver called OTIVESA.COM that comes with this game.

OTI 87 - This version of the card should work correctly if you load the OTIVBE.COM driver included with this game.

Orchid

Prodesign - This card will work with the driver called ORCHDVSA.COM that comes with this game.

Fahrenheit - With version 1 of the card, use the file called REV1.EXE and with version 2 use REV2.EXE. Both of these drivers are included with this game.

Packard Bell Computer

Most Packard Bell computers come with 1 of 3 video cards. Either the Headland, Oak Technologies, or the ATI Mach 32. Please refer to the appropriate section for instructions on how to install VESA drivers for those cards.

Paradise

These cards are identical to the Western Digital video cards. Please see the Western Digital section below.

Phoenix

Many of the older Phoenix cards are NOT VESA compatible and will not work with the game. If the card is a PhoenixView card, it definitely will not work. If you have a Toshiba laptop, please see that section for setting up the card. If the game does seem to start correctly, but after a few shots, the graphics start to get distorted, try starting the game with the /J command line option (i.e. GOLFCD /J).

Realtech

Older versions of this card are not VESA compatible. Some newer versions are VESA compatible, and will require a VESA driver from the video utility disk that came with the card.

STB

Most of these cards have the VESA driver built into ROM, so no external drivers should be required.

Toshiba Laptops

Listed below are the models that will and will not work with the game as well as which VESA driver is required.

Models that WILL work:

T200, T200CS, T1950CT, T1960CT, T3400, T3400CT, T4400C, T4500C, T4700CT and T4800CT require the Western Digital driver called VESA1A1B.EXE.

T4600C and T4700CS require the Western Digital driver called VESAX.EXE.

Models that will NOT work:

T1900CS, T1950CS, T1910, T1910CS

Tseng Laboratories

ET4000 - This video card requires a VESA driver called TLIVESA.COM which is included with this game.

Western Digital

90C30, 90C31 - Use the driver called VESA1D.EXE included with this game.

90C11 - Use the driver called VESA1C.EXE included with this game.

PVGA1A, PVGA1B, 90C00 - Use the driver called VESAX.EXE included with this game.

Older 90C30, 90C31 - Use the driver called VSA1DOLD.EXE included with this game.

Older PVGA1A, PVGA1B - Use the driver called VESA1A1B.EXE included with this game.

Other models will probably require a VESA driver from the utility disks that came with the card.

Graphic Performance and Quality

LINKS 386 CD has two graphic display systems, the *Terrain Rendering Engine* and the *Flyby Engine*. The performance and quality of each is affected differently by various hardware configurations.

The *Terrain Rendering Engine* is the graphic display system that renders the golf scene. The speed at which a scene is rendered is affected by the type and speed of the CPU (386DX-33Mhz, 486DX2-66Mhz, Pentium 90Mhz, etc.) and by the amount of available RAM (4 MB, 8MB, 16MB, etc.)

CPU type and speed are pretty well fixed. The only way to change them is to replace the CPU and (in most cases) the motherboard.

The amount of available RAM is easier to work with. Adding RAM to a machine is quite easy and costs \$40-\$50 dollars per MegaByte. There are also

steps you can take to insure that the memory you have is available for LINKS 386 CD. **Refer to page xx for more information of how to make more memory available.**

It will also help to understand how memory is used in the program and what options are available to maximize the use of the memory. LINKS 386 CD uses a 32 bit DOS Extender and Virtual Memory Manager (VMM) developed by Phar Lap Software, Inc. The VMM allows LINKS 386 CD to utilize as much available RAM as possible for storage of commonly used information such as object, panorama, and terrain data. The VMM also treats the hard disk as “virtual memory” which means that the hard disk becomes a “backup” to the physical RAM. **If there is not sufficient RAM to hold all the required data at one time, the VMM will “swap” data to and from the hard disk.** Treating the hard disk as virtual RAM allows a machine with minimum memory (4 MB) to run LINKS 386 CD, but the “swapping” slows down the rendering process.

Because of the large, highly detailed images in LINKS 386 CD, swapping will occur frequently on machines with only 4 MB of RAM. The amount of “swapping” decreases with more available RAM. **With 8 MB or more of RAM, there should be little or no swapping and delays will occur only when the image is loaded (drawn) for the first time.**

Since large images slow down the rendering speed, LINKS 386 CD has “compression” options to reduce the size of the objects and the panorama. Using some level of “compression” can significantly improve the rendering speed for those users who have less than 8 MB of RAM. As the level of “compression” increases however, the closest objects on the screen become more pixilated (blocky). Panorama compression also causes a more blocky appearance. **Refer to page xx for information on compression options.**

The Flyby Engine is the graphics display system that plays the aerial flybys. This system is also used during the Intro Sequence. Graphic and sound data for these sequences is interleaved on the CD and streams into the computer to be displayed by the video card and played by the sound card. The four components affecting performance here are the *CD-ROM's Transfer Rate* and *Burst Rate*, the *Video Card Speed*, and the *CPU Speed*. If any one of these is slow, the Flybys suffer. Symptoms include, jerky video and sound which breaks up. The sad part is that any machine (regardless of the CPU) that has a slow CD-ROM burst rate or video card can exhibit poor performance. LINKS 386 CD will help you *benchmark* your system to make you aware of any performance bottlenecks. **Refer to the section titled Testing the Performance of your Video Card and CD-ROM Drive on page xx.**

Note: The amount of available memory has no effect on the performance or the quality of the flybys.

Increasing Rendering Speed

Adding RAM to your computer or making more of the RAM you have available to LINKS 386 CD will help increase rendering speed especially when playing from the CD-ROM drive. This is because when course data or an object (such as a tree) is loaded the first time, it is stored in RAM so that the next time it is needed it will be readily available. If there is enough RAM available to hold all or most of the data, then the only time a delay will occur is when the data is loaded for the first time. If you don't have enough RAM, the slower rendering will be more apparent when playing a course from the CD than from the hard disk. This is because the CD-ROM drive is much slower than the hard disk. **Refer to Adding RAM to Your Computer or Making More Memory Available below.**

General Information

Finding out how much RAM is in your computer

If you're not sure how much RAM is in your computer, you can try the following:

Method 1: Try turning your computer off and on and watch the screen. Many computers count the amount of RAM during the Boot process. Numbers should be similar to the following:

Count	2048	means	2 MB
Count	4096	means	4 MB
Count	8192	means	8 MB
Count	12288	means	12 MB
Count	16384	means	16 MB

Method 2: Type: `C:\DOS\MEM` [Enter]

This should work for computers with DOS versions 5.00 and greater. Look for the line that says **Total Memory**. There are three numbers on that line. The number farthest to the left represents the amount of RAM in your computer.

Finding out how much RAM is available for use with LINKS 386 CD

To determine how much RAM is actually available for use in LINKS 386 CD, do the following:

1. Go to the LINKS386 directory. Type: `CD\LINKS386` [Enter]
2. Run GOLFCD with the /M option. Type: `GOLFCD /M` [Enter]

A message should appear something like this:

```
LINKS386 detects the following memory available
6.9 MB (384CM/6432XM)
```

The number in the lower left corner is the amount of memory available.

Adding RAM to Your Computer

If you only have 4 MB of memory and want to increase the rendering speed, you'll have to add at least another 4 MB of RAM (to make 8 MB total). Adding RAM is relatively easy but will require that you remove the case. Current prices are between \$40 and \$50 per MegaByte and therefore it will cost between \$160 and \$200 to add 4 MB. If you can afford it, we recommend adding enough RAM to make 16 MB total. Windows and many other programs run much better with 16 MB or more of RAM. Please note however that this may require adding a full 16 MB (instead of just an additional 12 MB) because of the way memory chips are configured on many motherboards. See your local dealer for help.

Making More Memory Available

Even if your computer has 8 MB of RAM, you may not be getting the best performance from LINKS 386 CD. This is because other programs may be using some of your RAM, making it unavailable for use by LINKS 386 CD. To make more RAM available, free up as much extended memory as you can by *disabling* or *reducing the size* of Disk Cache or Ram Disk programs (i.e. SMARTDRV or RAMDRIVE) or other programs which reserve large amounts of extended memory. This may also include memory managers. Also free up as much DOS (lower 640k) memory as possible by removing non-critical TSR programs. One way to accomplish this is to make a Boot Disk that contains only essential drivers and data. **For instructions on how to create a Boot Disk, refer to page xx.** To check how much RAM is available, see *Finding out how much RAM is available for use with LINKS 386 CD* above.

Command Line Switches

LINKS 386 CD has several options that may be selected by using one or more of the following switches:

- | | |
|---|--|
| Type: GOLFCD /H or /? [enter] | To display a help menu of these switch options. |
| Type: GOLFCD /1 [enter] | To force LINKS 386 CD into a 640x480 mode. Try this option if your VESA driver seems to be working but you're still not getting a picture. |
| Type: GOLFCD /3 [enter] | To force game into 800x600 mode. |
| Type: GOLFCD /5 [enter] | To force game into 1024x768 mode. |
| Type: GOLFCD /9 [enter] | To force use of the large Intro |
| Type: GOLFCD /8 [enter] | To force use of the medium Intro |
| Type: GOLFCD /7 [enter] | To force use of the small Intro |
| Type: GOLFCD /0 [enter] | To NOT PLAY the Intro at start up |
| Type: GOLFCD /C [enter] | To turn on CRC checking. This is useful if you are experiencing random lockups and may help detect hard drive problems. |
| Type: GOLFCD /D [enter] | To run LINKS 386 CD in a DEMO mode. This mode will allow a Software Dealer to |

use LINKS 386 CD as a store demo as follows:

1. Type: **GOLFCD /D** [enter]
2. Start a game as usual and select one or more RECORDED players (no live players).
3. The game will play 18 holes, pause at the score card for 15 seconds, and then start the same game again.

Type: **GOLFCD /F** [enter]

To run LINKS 386 CD with write cache flushing off. Try this option if you are using a Pentium computer and receive a disk access icon upon starting the game. Also useful if you are receiving intermittent problems.

Type: **GOLFCD /J** [enter]

To bypass BIOS for video page switching. Use this option if the screen “breaks up” and redraws in strange patterns.

Type: **GOLFCD /M** [enter]

To display available memory.

Type: **GOLFCD /P** [enter]

To use BIOS to change color palette instead of hardcoding addresses as usual. Try this switch if the colors do not appear to be correct.

Type: **GOLFCD /S** [enter]

To disable the Save Game feature.

Type: **GOLFCD /V** [enter]

To display version number.

Making a Boot Disk

One way to make more memory available and often times solve other problems is to create a *Boot Disk*. A *Boot Disk* is a floppy disk that is read by the computer during start up and contains only essential drivers and data. Once the *Boot Disk* is created, you simply restart the computer with the *Boot Disk* in the floppy drive. This cleans up the boot process. You can return the computer to its normal state by removing the *Boot Disk* and then resetting the computer. Two special programs are provided with LINKS 386 CD to assist in this process. There is an automatic Boot Disk Maker called AUTOBOOT.EXE. This program will attempt to automatically create a Boot Disk without your help. The second program is a manual Boot Disk Maker called BOOT.EXE. This program will help you create a boot disk. To use either program, do the following:

1. Go to the LINKS386 directory. Type: **CD\LINKS386** [Enter]
2. To run the automatic boot maker, type: **AUTOBOOT** [Enter]
To run the manual boot maker, type: **BOOT** [Enter]
3. Be sure to have a floppy available for use as the Boot Disk in the A: drive.

Copying Courses from the CD to the Hard Drive

Refer to the section titled “Cataloging Courses” on page xx.

Deleting Courses from the Hard Drive

Refer to the section titled “*Deleting (Games, Courses, Players, Recorded Players, and Saved Shots)*” on page xx.

Changing Background Tile Colors

LINKS 386 CD uses a file called CDTILE.TIL to fill blank portions of the screen when LINKS 386 CD is running in resolutions above 640x400. The default tile is green, but additional tiles are available as listed below:

CDGREEN.TIL (default)

CDBLUE.TIL

CDRED.TIL

CDDGRAY.TIL

CDMGRAY.TIL

CDLGRAY.TIL

CDBLANK.TIL

To change to a new tile such as CDRED.TIL, do the following:

1. Go to the LINKS 386 directory. Type:
CD\LINKS386 [enter]
2. Replace CDTILE.TIL with the tile of your choice by copying over it. For example, if you want to use the red tile, type the following:
COPY CDRED.TIL CDTILE.TIL [enter]
3. To change back, type the following:
COPY CDGREEN.TIL CDTILE.TIL [enter]

Frequently Asked Questions

Also see
“Troubleshooting”

Memory

Q: How much hard disk space do I need while playing LINKS 386 CD?

A: The amount of hard disk space needed depends on the amount of available RAM. Refer to the table below.

Available RAM	Disk Space Needed While Playing
4 MB	up to 8 MB
8 MB	up to 4 MB
12 MB or more	up to 1 MB

Q: How much conventional memory is required to play LINKS 386 CD?

A: You can play LINKS 386 CD with as little as 250 KB of conventional memory.

Q: How does the amount of available RAM affect game speed?

A: LINKS 386 CD can use up to 12 MB of RAM. If you have less than that amount available, you can increase the rendering speed by adding RAM. Certainly, if you only have 4 MB in your computer, adding RAM will make a significant change in the rendering speed. However, if you already have 8 MB (and most of it is available) then going to 12 MB or 16 MB will not have as dramatic an affect. See *Graphic Performance and Quality* on page xx and *Increasing Rendering Speed* on page xx for more information.

Q: How can I determine the amount of RAM in my computer?

A: See *Finding Out How Much RAM Is in Your Computer* on page xx.

Q: How can I determine how much RAM is available for use with LINKS 386 CD?

A: See *Finding Out How Much RAM Is Available for Use with LINKS 386 CD* on page xx.

Q: How can I make more memory available so that the scenes will render faster?

A: See *Making More Memory Available* on page xx.

Q: Should I add RAM to my computer?

A: If you have 4 MB of RAM, we recommend adding at least another 4 MB to give a total of 8 MB. LINKS 386 CD can use approximately 12 MB if you have it. If you can afford it, we recommend going up to 16 MB. See *Adding RAM to Your Computer* on page xx for more information.

Q: Which memory managers work best with LINKS 386 CD?

A: Though most memory managers will work fine with LINKS 386 CD, a manager is not needed, since LINKS 386 CD provides its own.

Q: Will LINKS 386 CD run with QEMM and 386MAX?

A: LINKS 386 CD runs fine with 386MAX and with most versions of QEMM. There is a problem, however, with QEMM versions 6.02 and 6.03 when used with a Disk Cache program such as SMARTDRV from Microsoft. Refer to page xx for help in solving this problem.

Q: Why is a DOS extender needed for LINKS 386 CD?

A: The DOS extender allows LINKS 386 CD to use all available memory without having to free a certain amount of conventional memory (lower 640k).

Q: Should a disk cache program be used with LINKS 386 CD?

A: We do not recommend a disk cache for computers with less than 8 MB of RAM. Refer to the table below.

4 MB RAM	No CACHE
8 MB RAM	512 K
12 MB RAM	512 K
16 MB RAM	1024 K

Sound

Q: Why does my sound break up occasionally during the Flybys?

A: Slow CD-ROM drive or Video Card. Refer to *My Sound Breaks Up During Flybys* page xx.

Q: Which sound cards are compatible with LINKS 386 CD?

A: All major sound cards are compatible with LINKS 386 CD. If you are having problems with your sound card, refer to *Information About Specific Sound Cards* on page xx.

Q: I don't know what my sound card settings are (Interrupt, I/O Port, DMA). Can I still set up my sound card?

A: Yes. Use the Auto-Detect feature in the Sound Configuration System. Refer to page xx. Also refer to problem #11 in the Trouble Shooting section on page xx.

Q: Why won't my sound card work?

A: Configuring sound cards is often the most difficulty part of setting up any

game. Carefully read the section on *The Sound System* on page xx.

Q: How can I get the best possible sound from LINKS 386 CD?

A: Digital sound in LINKS 386 CD was recorded at 22 kHz in 16 bits. This means that to play it back at that quality, you need a 16 bit sound card and a good set of speakers. See your local dealer for help in choosing good sound equipment.

Video

Q: What is the difference between VGA and Super VGA?

A: In 256-color mode, VGA runs in 320x200 resolution; Super VGA runs in 640x400 and 640x480 resolution.

Q: What is a VESA driver?

A: A VESA driver is a small program that communicates with the computer's video card. Each video card has its own VESA driver, usually written by the card manufacturer and supplied free of charge. Most new Video Cards have the driver built into the ROM of the card and therefore don't need an external driver. When the correct VESA driver is installed (one that matches the video card), application programs such as **LINKS 386 CD** can communicate with the card using the VESA standards. This allows the application to display graphics in Super VGA and other modes. Refer to page xx for more info.

Q: What is VESA Local Bus and PCI Local Bus. Which is best and do I need one?

A: The Bus is a pathway which connects peripheral devices such as video cards, hard drives, etc. to the CPU. The older type Bus is called the ISA Bus. The newer type Bus is called the Local Bus. A Local Bus is 4-10 times faster than an ISA bus. VESA Local Bus (VLB) is a local bus standard set forth by the Video Electronics Standards Association. PCI Local Bus (PCI) is a local bus standard set forth by INTEL. Both are widely accepted and many manufacturers produce hardware for both VLB and PCI. Both are good. VLB has been around a little longer and is a little more established, while PCI is newer. To obtain maximum performance you definitely want a computer with a motherboard, hard disk controller, and video card that are either VLB or PCI Local Bus.

Q: Why are the Flyby windows and the Intro sequence small on my computer? They are both large on my friend's machine.

A: The Flybys are available in both large and small size and the Intro is available in three sizes, small, medium, and large. If your Flybys and Intro are not full size (large), it is because the performance test which was performed at the time of installation, determined that your machine was not capable of playing the large size windows. You can override these "default" sizes to see if the large size windows will play. Be aware that if your computer's CPU, Video Card and/or CD-ROM drive is too slow, the Flybys and the Intro may appear choppy and the sound may break up. Refer to the section titled

“Simulated Aerial Flybys” on page xx for instructions on how to change the size of the Flyby window. To change the size of the Intro sequence, start the game with one of the following command line switches:

Type:	GOLFCD /9	to force use of the large Intro
Type:	GOLFCD /8	to force use of the medium Intro
Type:	GOLFCD /7	to force use of the small Intro
Type:	GOLFCD /0	to NOT PLAY the Intro at start up

For more Command Line Switches, see page xx.

Q: Can I change the size of the Flyby window?

A: Yes. Refer to the section titled “Simulated Aerial Flybys” on page xx for instructions on how to change the size of the Flyby window.

Game Play

Q: In the post-shot control panel, the Skip button in the top-right corner sometimes shows up red. Why?

A: After you have “skipped” a player on the current hole, the next time he or she is “next to hit,” the Skip button will be red. This is to remind you to “skip” the player again if necessary. If you click the Continue button when the Skip button is red, the player listed will be hitting after the screen draws.

Q: Can you play any hole on any course in LINKS 386 CD?

A: Yes! **LINKS 386 CD** allows you to go straight to, and practice, any hole. See page xx.

Q: Why is the golfer not visible during a replay?

A: Displaying a reverse view of the golfer during replays requires significant additional memory, which slows down game play. We are working on a different method of storing animation images to allow reverse animations as well as other animations.

Q: How many pin positions are there, and how are they determined?

A: There are six randomly-determined pin positions on each green. For recorded games and players, there is only one default pin position, which is always used.

Q: How does hitting off the different “terrains” (lies) affect the shot?

A: Each terrain affects the shot distance differently. For example, hitting out of the sand, or out of the deep rough, will cut the shot distance by approximately 20%. Hitting off the short rough cuts the shot distance by approximately 15%.

Q: What is the difference in strength between the female and male golfers in LINKS 386 CD?

A: There is no difference, as long as both are playing at the same level (Pro, Am, Beg).

Q: I select the black tees when I setup the game, but LINKS puts me on the blue tees. Is something wrong?

A: No. Some of the courses that we reproduce do not have black tees on the actual course, therefore the game selects the next closest tee box.

Q: What do the small dots around the swing indicator represent while putting?

A: Each dot represents approximately 10 feet on a straight flat green.

Game Speed

Q: Does the game play slower from the CD than from the hard drive?

A: If you have 12 MB or more of RAM in your computer, the only noticeable CD delay occurs when course data is loaded for the first time. This is most obvious when the first scene is rendered, since all the terrain data and objects have to be loaded. After the first render, the delays are very minor, and after playing a few holes, they are essentially unnoticeable. With less than 12 MB of RAM, the delays are somewhat more apparent. The best thing to do is to play the course from CD and then from the hard drive and decide if the delays are acceptable.

Q: Would a faster CD-ROM drive help the game play faster?

A: If you want to play courses from the CD and want to play as fast as possible, we recommend buying a Quad spin drive. Before you do however, we recommend that you play the course from CD and then from the hard drive and compare the performance. Game speed when playing from the hard drive is as fast as your machine can perform. Even a Quad spin CD-ROM drive will not be as fast as the hard drive. If your courses aren't on your hard drive and you don't know how to copy them from the CD, refer to the section titled "Copying Courses from the CD to the Hard Drive" on page xx.

Q: How can I make the program run faster?

A: Refer to the section titled "Increasing Rendering Speed" on page xx.

Q: What is the average "redraw" time for the screens in LINKS 386 CD?

A: The average redraw time depends on several factors; CPU type and speed, amount of available RAM, whether the course is being played from CD or hard disk, how much of the course data is already in RAM, and CD-ROM drive speed. Rendering times on 386 machines with minimum RAM can be as long as 30 seconds while a Pentium 90 with 16 MB of RAM can render the same scene in as fast as 1 second.

Q: Will I always see a noticeable difference in rendering speed if I turn down the graphics settings?

A: That depends on how much available RAM you have. If available RAM is under 8 MB, then reducing the graphic quality by increasing the level of compression and turning off graphics features will definitely increase rendering speed. However, if you have 12 MB of RAM or more, reducing the

quality of the graphics will not make a noticeable improvement in rendering speed. The best approach is to try different settings and compare rendering times. Refer to the section title “Changing Game Settings” on page xx.

Miscellaneous

Q: Will LINKS 386 CD use my old courses?

A: Yes. Super VGA courses used with LINKS 386 PRO will work directly with LINKS 386 CD. However, courses from the original LINKS will need to be converted to a newer format. Refer to the section titled “Converting original LINKS courses to run with LINKS 386 CD” on page xx.

Q: I want to play my CD courses from the hard drive, but they only show up on the CD. What should I do?

A: You must copy the courses from the CD to the hard drive. See “Copying Courses from the CD to the Hard Drive” on page xx.

Q: I only play my courses from CD. How do I delete courses from my hard drive so that I can free up some disk space?

A: See “Deleting Courses from the Hard Drive” on page xx.

Q: What are the hardware requirements for LINKS 386 CD?

A: See “Minimum Hardware Requirements” on page xx.

Q: What new features are available that weren’t available in LINKS 386 PRO?

A: See “Features of LINKS 386 CD” on page xx.

Q: Can I play the game in higher resolutions, like 800x600 or 1024x768?

A: Yes, however the game will simply appear as a smaller window in the middle of the screen. See “Command Line Switches” on page xx.

Q: Can I change the Background Tile Colors (for 640x480, 800x600, or 1024x768)?

A: Yes. See “Changing Background Tile Colors” on page xx.

Q: How do I transfer a Recorded Player from one computer to another?

A: To transfer a Recorded Player file from your hard disk to a floppy disk:

1. Go to the LINKS386 directory. Type: **CDLINKS386**
2. Place a formatted disk in the floppy drive.
3. Type: **COPY Filename.REC A:** (for the A: drive)
Type: **COPY Filename.REC B:** (for the B: drive)

To transfer a Recorded Player file from a floppy disk to your hard disk:

1. Go to the LINKS386 directory. Type: **CDLINKS386**
2. Place the disk with the file on it in the floppy drive.
3. Type: **COPY A:Filename.REC** (for the A: drive)
Type: **COPY B:Filename.REC** (for the B: drive)

Q: What happens if LINKS 386 CD is run on a 286 computer?

A: LINKS 386 CD was not designed for and will not run on a 286 computer.

Q: Will LINKS 386 CD run under Windows?

A: LINKS 386 CD is not designed to run under Windows, but you can give it a try.

Q: Is there an easy way to remove LINKS 386 Pro from my hard disk once I'm comfortable with LINKS 386 CD?

A: Yes. Refer to the paragraph titled: "Un-installing LINKS 386 Pro or LINKS 386 CD" on page xx.

Q: Is there a way to capture a screen so I can use it in a paint program?

A: You can capture LINKS386 screens by pressing CTRL-ALT-S. The screen will be saved to disk as SCRNO000.LBM. Subsequent captures will be saved as SCRNO001.LBM, SCRNO002.LBM and so on. The file format is ILBM (IFF) and each screen is 256KB. The file can be converted to other popular formats such as GIF,PCX,etc. using a file converter. You cannot capture Flybys or the Intro.

Q: How do you choose which courses to produce?

A: A number of factors are considered when choosing a course: (1) We like to use courses which host a PGA, Senior PGA, or LPGA event; (2) The course should be listed in the *Golf Digest* annual course rankings; (3) We consider location, since we want to offer courses from the most popular golfing areas in the world, such as the southeastern Atlantic states (Carolinas, Georgia, Florida, etc.), midwestern states (Ohio, etc.), California, Arizona, Hawaii, Canada, and Europe; and, (4) We choose courses that have distinctive character and unique challenges.

Q: How do you produce the courses?

A: After receiving permission from the course owners, we obtain copies of the course plans, topographical maps, and any other pertinent information. We videotape the entire course and surroundings, take still photographs of the trees, rocks, shrubs, buildings, and other objects on the course, then take hundreds of aerial photographs, which help us to correctly place the fairways, bunkers, greens, hazards, and trees. This process takes five to ten days. Then, over the next eight to ten weeks, the "course construction" team uses a complex process to convert the information into a playable and extremely realistic LINKS course.

Q: There are several courses which you have not done that are considered to be among the most famous in the world. Do you plan to produce them in the future?

A: We would like nothing more than to offer all of the finest championship courses. Some courses, however, prefer to guard their privacy and have, so far, not been receptive to our offers. We certainly hope to always produce the best courses available, and that LINKS 386 CD users will be satisfied with our selections. The two most requested courses are Augusta National and Pebble Beach. We finally produced Pebble Beach and we're not giving up on Augusta National yet. One down, one to go!

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Trouble Shooting and Technical Support

Also see “Frequently
Asked Questions”

Problems and Solutions

1. PROBLEM: When I try to install the game, it says “This installation program requires a VESA driver...”

SOLUTION: Also see problem 3 below. Both the INSTALL program and LINKS 386 CD require a VESA compatible video card and driver. If the INSTALL program aborts with this message, refer to the section titled “Installing and Testing Your VESA Driver” on page xx. Once you get your VESA driver working, try installing LINKS 386 CD again.

2. PROBLEM: I get a Memory Allocation Error when I try to start the game.

SOLUTION: This error can occur if you have a Paradise or Western Digital video card. You will need to load an extension to the VESA driver that is built into the card. The name of the driver that should resolve the problem is VESA1D.EXE. This file is located on the CD in the VESA\WESTERN sub-directory. For more information on how to install a VESA driver, see “Installing and Testing Your VESA Driver” on page xx.

3. PROBLEM: I get a “This installation program requires a VESA driver...” message and I have a Cirrus Logic video card with built in VESA.

SOLUTION: There is a known conflict between the VESA driver built into the Cirrus Logic card and QEMM. The VESA driver is being remapped by QEMM and is not available for programs to use. One solution is to exclude the video memory address from QEMM. Sometimes using Stealth mode will do this. The other solution is to set up either a multiple boot configuration or a boot disk that does not load QEMM. You can also disable QEMM by holding down the ALT key while booting.

4. PROBLEM: When I start the game, it says that I don’t have a mouse installed, but it works correctly in windows.

SOLUTION: There is a mouse driver built into Windows that does not work for DOS programs. If you’ve never run a program that requires a mouse outside of Windows, then you will not have encountered this problem before.

You will need to have a DOS mouse driver loaded for any DOS programs to access the mouse. A mouse driver is normally furnished with your mouse that supports DOS. If you can't find one or don't know how to install it, call our technical support department for help.

5. PROBLEM: The program keeps stopping with a Phar Lap error code.

SOLUTION: When a Phar Lap error is generated, it means that the DOS extender used by LINKS 386 CD didn't like something. The following are common Phar Lap errors and their remedies:

ERROR 58

Cause: The SWAP FILE did not get deleted because the program wasn't properly terminated, and the extender cannot create a new one.

Remedy: Be sure to type GOLFCED to start the game. This will delete the SWAP FILE before running the program.

ERROR 10031

Cause: There is not enough RAM available for the program. A minimum of 1.5 MB of RAM is required.

Remedy: See "Making More Memory Available" on page xx.

ERROR 10025

Cause: Usually associated with a memory manager such as EMM386.

Remedy: Look for an "M9" switch in the EMM386 device line of the CONFIG.SYS file and remove it.

ERROR 10037

Cause: Not enough disk space for the SWAP FILE. The swap file is only needed while the game is running and its size depends on the amount of available RAM. A machine with 4 MB of RAM could need a swap file as large as 9 MB while a machine with 16 MB of RAM would not even need a swap file.

Remedy: Free up some hard disk space.

6. PROBLEM: When I go to select a course, the same name appears multiple times in the Catalog.

SOLUTION: This will occur if the same course exists in more than one location such as on the hard disk as well as on the CD. Refer to "How the Catalog System Works" on page xx.

7. PROBLEM: My scenes take a long time to draw.

SOLUTION: Refer to the section titled "Increasing Rendering Speed" on page xx.

8. PROBLEM: My sound doesn't work.

SOLUTION: Configuring sound cards is often the most difficulty part of

setting up any game. Carefully read the section on *The Sound System* on page xx. Also try the following:

1. Make sure the sound is turned on and that the volume is turned up in the Sound Options screen. See page xx.
2. Verify that the system is properly connected and working outside this game. Most cards come with some self-diagnostic programs or you may try using it in Windows. If you can't get it working, try to call the card manufacturer first. This would be your quickest solution. If you can't get help from the manufacturer, call us. We'll try to help you get it working.
3. Try to Auto Detect your card. Go to the Set Sound Device screen (See page xx) and click the Auto Detect button. If Auto Detect finds a card, go to step 4. If it does not find a card, read *The Sound System* section on page xx. If the computer locks up, reboot the machine and repeat step 3. The program keeps track of the lockups and will try a different test next time.
4. Once Auto Detect has found a card, click on the ACCEPT button.
5. Now test this card by pressing the Sound Test button. If you hear a voice, you're done. Click the OK button. If not, click the Auto Detect button again. Auto Detect will find the same card again, but this time, click the Continue button. The last card may have been a phantom detection, and we want to see if the system can find another match. If it finds another card, click ACCEPT and repeat step 5. If it doesn't find another card, proceed to step 6.
6. If Auto Detect has found a card but the sound test doesn't work, it may be that the I/O Port, Interrupt, or DMA channel is not set correctly. Normally, Auto Detect will find the correct settings, but not always. Try different values and click the Sound Test button to test each setting. If you are still unsuccessful, read *The Sound System* section on page xx.

9. PROBLEM: My sound card is supposed to be Sound Blaster compatible, but it doesn't work.

SOLUTION: Go to the Set Sound Device screen and try selecting the one of the Sound Blaster drivers with the NO VERIFY option. These drivers are located at the bottom of the DEVICE LIST and are called SB 1.0 (NO VERIFY) and SB PRO (NO VERIFY). Also see problem 8 above. Then carefully read the section on *The Sound System* on page xx.

10. PROBLEM: When I try to Auto-Detect my sound card, my machine locks up.

SOLUTION: Some sound cards do not react well to the Auto Detection process and may LOCK UP the computer. If this happens, reboot and try

AUTO DETECT again. The program keeps track of combinations which cause a lock up and will not try that combination again. If you install a NEW sound card, click the CLEAR LOG button before using AUTO DETECT.

11. PROBLEM: I don't know what the settings are for my sound card.

SOLUTION: Most sound cards come with a utility program that will tell you the settings for your cards I/O Port, Interrupt (IRQ) number, and DMA channel. This program will be on one of the disks that came with your card. If you can't find it, you can try calling the card manufacturer.

12. PROBLEM: My sound breaks up during Flybys.

SOLUTION: Refer to The Flyby engine (Graphics Performance and Quality section) on page xx.

13. PROBLEM: When I do a Sound Test it sounds great, but when I play the game I get really scratchy sound, especially when I move the mouse.

SOLUTION: This problem is a conflict between the video card and the sound card. If you have a Cirrus Logic chipset on the video card or a Diamond Speedstar, you will need to load the VESA driver for that video card. For Cirrus Logic, load the driver called 542XVGAL.EXE which is located on the CD in the VESA\CIRRUS directory. For the Diamond Speedstar, the driver is on the Speedstar installation diskette and is called PROBIOS.EXE. For instructions on installing the VESA driver, see "Installing and Testing Your VESA Driver" on page xx.

14. PROBLEM: I keep getting read errors when playing from the CD.

SOLUTION: Check the CD for dirt or fingerprints. Also make sure that the CD-ROM drive is functioning properly by using other CD-ROM games or applications. If the CD looks fine and the drive seems to be working, then the disk may be defective. Call our customer support department for a replacement.

15. PROBLEM: The panorama looks blocky.

SOLUTION: Select the "Use Full Panorama" option in the GAME SETTINGS screen. See "Changing Game Settings" on page xx. Remember, this will slow down the redraw speed on machines with insufficient available RAM.

16. PROBLEM: The trees look blocky.

SOLUTION: When using "converted" courses, or when the graphics settings are adjusted for maximum game speed, the objects in the foreground may appear "blocky." This is not a bug and can be changed by using the "high-resolution" courses and setting the graphics to their highest level (no compression). Also try switching off "Allow Upscaling" on the game setting screen.

17. PROBLEM: LINKS 386 CD won't recognize my video card or I don't get any picture.

SOLUTION: You have not installed a VESA compatible driver, or your card does not support 640x400 or 640x480, 256 color mode. Please refer to "Installing and Testing Your VESA Driver" on page xx.

18. PROBLEM: My Auto-Caddy sometimes picks the wrong club.

SOLUTION: The Auto-caddy selects a club based solely on the distance from the ball to the pin and the lie of the ball, and does not take into account the difference in elevation, wind strength and direction, or your style of play. The caddy "recommends" a club, but you are free to choose another club at any time.

19. PROBLEM: When I use QEMM, LINKS 386 CD locks up.

SOLUTION: There is a problem with QEMM versions 6.02 and 6.03 when used with a disk caching program such as SMARTDRV from Microsoft. You can either change to the older version of QEMM (version 5.11) or disable your disk cache or use 386MAX instead of QEMM. You can also disable QEMM by holding down the "ALT" key while your system boots.

20. PROBLEM: The program locks up sometimes when I move the mouse during disk access.

SOLUTION: Refer to the QEMM problem above.

21. PROBLEM: When I try to use a disk cache with LINKS 386 CD, the program locks up.

SOLUTION: Try turning off WRITE BACK CACHING. If you're using QEMM, refer to the QEMM problem above.

22. PROBLEM: My hard disk seems to run almost constantly while scenes are being drawn.

SOLUTION: LINKS 386 CD will use up to 12 MB RAM. If you have 12 MB RAM or more, course data will load only once and not need to "swap" (see page xx). If you have less than 12 MB RAM, the computer will be swapping off and on as long as you play. If you have a minimum amount of RAM, the hard disk drive will be working hard, since the computer will always be swapping.

23. PROBLEM: I keep getting the message, "Not Enough Disk Space For Swap File".

SOLUTION: If this message occurs, it means that the size of the "Swap File" has exceeded the available space on the hard drive. This will cause the program to clear the file and start over, which slows things down. You should either free up some space on your hard disk or install more RAM in your computer to reduce the size of the "Swap File". If you have less than 8 MB of RAM in your machine, installing extra RAM will increase drawing speed significantly.

24. PROBLEM: Sometimes when I print, the program seems to lock up for a minute or more. It then returns without printing.

SOLUTION: If a printer is connected, but "Off Line", the printer timeout

routine in DOS can take a long time to report that the printer isn't ready. Make sure your printer is "On Line" before printing.

25. PROBLEM: I keep getting lost clusters on my hard drive.

SOLUTION: Lost clusters occur when an open file is not closed properly. This can occur in LINKS 386 CD when a reset or CTRL-ALT-DEL or power outage happens during play. Always use the "Exit to DOS" option rather than reset or CTRL-ALT-DEL. Use your favorite disk utility, such as CHKDSK, to recover lost clusters. Type: **CHKDSK /F**

26. PROBLEM: I obtained a Recorded Player file from a friend, and it shows up in the "Recorded Player List," but won't play.

SOLUTION: Recorded files that won't play are listed with RED or BLUE text or both. If the Course Name is RED, this means you don't have that course. You'll need to see your local dealer or call us to purchase the course. If the Player Name is BLUE, this means your version of LINKS 386 CD is older than your friend's version, and the Recorded Player file is not compatible. He can play your files, but you cannot play his. Give us a call, and for a nominal charge, we'll send you the latest version of LINKS 386 CD so you can play the file.

27. PROBLEM: LINKS 386 CD used to work fine but now it locks up after the initial screen or with a blank screen.

SOLUTION: Try deleting the LINKSCD.CFG and the LINKSCD.INI files.

28. PROBLEM: When I go to the Course Select screen, only one course shows up even though I have more than one course in my catalog.

SOLUTION: You are using a Recorded Player. Refer to page xx for more information on Recorded Players.

Keep Your CD's Clean

CD's are very susceptible to scratches, dirt, fingerprints, etc. If you are experiencing read errors or other strange behavior, check the CD and clean them if needed.

Using the ReadMe file

If your problem is not covered above, refer to the README.TXT file. This file contains information which may not be included in this manual. To view the README file, do the following:

1. Go to the CD-ROM drive:
Type: **D:** [Enter]
where D: is the drive letter of the CD-ROM drive
2. Type: **README** [Enter]

Hardware Upgrade Suggestions

Here are some guidelines.

1. Make sure your CPU is fast enough. If you want to run fast, you'll need at least a 486DX2/66MHz Local Bus system. Get the fastest machine you can afford. A Pentium 90 is over twice as fast as a 486DX2/66.
2. Make sure the mother board is VESA Local Bus or PCI Local Bus. A local bus can run at speeds which are much greater than the standard ISA bus. Make sure to install a Local Bus Hard Disk controller.
3. Get at least 8 MB of RAM, 16 MB or more if you can afford it. *LINKS 386 CD* needs almost 12 MB to run without any scaling, and many windows applications need 16 MB or more to run without swapping to the hard drive.
4. Get a fast, Local Bus Video Card capable of at least 256 colors in 1024x768 resolution and 32000 colors in 800x600 resolution. Make sure the card is VESA compliant and is fast in DOS as well as windows.
5. Make sure the CD-ROM is at least Double Spin (300 KB/sec) with at least a 64K internal buffer and a reasonably good burst rate. You should try to get a burst rate above 600 KB/sec. This is not a normally published specification for CD-ROM drives because it is a function of the interface card and the CPU speed as well as the drive itself. *LINKS 386 CD* will test the burst rate for you (see page xx), so you may want to test drive the software on the machine before you buy.
6. Get a 16 bit sound card and a good set of speakers.
7. If you're after a computer that really screams, make sure you test before you buy. Many clone makers simply throw components together and don't bother to make sure everything runs at top speed. Be sure to buy from a dealer with a reputation for fast, high quality equipment and a good technical support policy.

Calling Technical Support and Customer Service

If you're having problems, do the following:

1. Read the Manual. We have tried to answer as many questions as possible regarding playability and technical problems in the manual. If you think your problem is a technical one, read chapters xx,xx, and xx carefully before calling.
2. Before you call, determine if the problem is a "how to play" question or a technical question. If the problem is technical, try to compile as much information about your system as possible and have it handy for reference as you talk to the support technician. Information such as the type and speed of your CPU, how much RAM you have, the brand and speed of your CD-ROM, and the brand of your sound card will help a lot in solving your problem. A printout of your CONFIG.SYS and AUTOEXEC.BAT files would also be very useful. The more you can tell him or her, the faster the problem can

be diagnosed and solved. If you are a computer novice and don't know how to get the above information, don't worry. Just call us, and our courteous technicians will help you through it. It will just take a little longer.

3. Try to be at the computer as you call.
4. Call our Technical Support Hotline. *See below.*

Technical Support

U.S. and Canada

If you have any questions regarding this product, we offer three different ways to get help:

1. Call our toll-free Support Hotline at **1-800-793-8324** from Monday through Friday between the hours of 7:30 a.m. and 8:30 p.m., Mountain Time Zone.
If the problem is technical, try to compile as much information about your system as possible and have it handy for reference as you talk to the support technician.
2. If you have a modem, you can use our Bulletin Board System (BBS). The number is **1-801-364-7449** and is open 24 hours every day. There are four 14,400 Baud modems accessible on the BBS (8-N-1).
3. On-Line users can get help on ACCESS products through the following On-Line services:

Service	ID #	Location
America On-Line	Linksp1	Industry Connection
Compuserve	72662,61	GO GAMB PUB
Prodigy	GBVV20A	E-mail
Genie	XKY98115	Scorpia Game Conf.
Delphi	Linksp1	Custom 119

Europe

For technical support, call **021-326-6418**

Our European distributor is US Gold Limited
Units 2/3 Holford Way
Holford, Birmingham B67AX England

Computer Sports Network

Refer to page 52 for information about On-Line tournaments.

Access Software Product Warranty

NOTICE: Access Software reserves the right to make amendments or improvements to the products described in the manual at any time and without notice.

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To obtain a replacement diskette, please return the diskette only, postage prepaid to Access Software, Inc. or U.S. Gold Limited at the address below, accompanied by a statement of the defect, a copy of your purchase receipt, your name and return address.

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